

# CURRENT ISSUES IN RAIL TRANSPORTATION OF HAZARDOUS MATERIALS

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BEFORE THE  
SUBCOMMITTEE ON  
RAILROADS  
OF THE  
COMMITTEE ON  
TRANSPORTATION AND  
INFRASTRUCTURE  
HOUSE OF REPRESENTATIVES  
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## **CURRENT ISSUES IN RAIL TRANSPORTATION OF HAZARDOUS MATERIALS**

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**Tuesday, June 13, 2006**

HOUSE OF REPRESENTATIVES, COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE, SUBCOMMITTEE ON RAILROADS, WASHINGTON, D.C.

The subcommittee met, pursuant to call, at 10:00 a.m., in room 2167, Rayburn House Office Building, Honorable Steven C. LaTourette [Chairman of the subcommittee] presiding.

Mr. LATOURETTE. Good morning. The hearing of the Railroad Subcommittee will come to order. Today's hearing is on the subject of the transportation of hazardous materials, a class of substances ranging from nontoxic materials, such as comprised nitrogen, to highly toxic gases, such as chlorine.

Most hazardous materials in the United States are transported by rail and the primary reason is safety. Over the years, our Nation's rail industry has had an admirable safety record and the railroads are constantly working to reduce the likelihood of accidents. Railroad tank cars are robustly designed and have been crash tested to minimize the possibility of an accidental release. And most importantly, railroad employees receive extensive safety training, which is the key to operating a safe system.

There is one other reason why shippers prefer to move hazardous materials by rail, a reason that is little known to the general public. Many people are surprised to learn that railroads have no choice in the matter; they are required by law to ship any and all hazardous materials at the request of any shipper. This is known, of course, as the common carrier obligation.

The railroads, of course, purchase insurance to mitigate the financial risk of carrying hazardous material, but this coverage is both expensive and limited in availability. According to the Association of American Railroads, highly hazardous commodities constitute only 0.3 percent of total carloads, but account for 50 percent of the railroads' total insurance cost. Due to the expense and lack of available coverage, most railroads are only able to ensure a fraction of their net worth. For a smaller carrier, a single hazmat accident force the company into bankruptcy.

This is why we wanted to explore new ways of handling the risk exposure for highly hazardous commodities. Liability for accident involving nuclear material is already limited by the Price-Anderson Act. Perhaps a similar system should be established for hazmat. Other alternatives might be a Federal liability compensation fund, a national wrap-up insurance program, or perhaps even a cap.

Hazardous materials are critical to the operation of many industries, for example, the fertilizer used by our farmer contains ammonia, and the plastic in your children's toys have been made from liquid plastic resins. These commodities are both shipped by rail. Many water treatment plants use chlorine to purify drinking water or decontaminate sewage. Again, chlorine moves almost exclusively by railroad tank car.

While we must remember that the shipment and use of hazardous materials is not without risk, in the past several years we have had a number of tragic accidents where railroad employees and local residents were injured or killed in hazmat incidents. While I favor taking all reasonable steps to reduce the risk to the public, I want to make it clear that I do not think that allowing municipalities to reroute trains is a good idea. The rail system is not as extensive as a highway system, and diverting a train from one urban area would just as likely send it through a number of other urban areas. The routing of trains is best handled at the national, not local, level.

There is no railroad beltway bypassing Washington, and the cost of constructing such a track would be cost-prohibitive. Rerouting over existing tracks would force shipments to travel hundreds of additional miles through dozens of communities. In some cases, hazmat trains would be forced to use lesser quality tracks through more difficult terrain, and rerouting would also cause additional congestion on a national rail system already strained to capacity. In the end, the disruption caused by rerouting trains might force more hazardous cargo onto our highway system, a result that is in no one's best interest.

I believe that as far as hazardous cargo is concerned, the best route is the shortest route. We need to encourage railroads to work together to ensure that hazardous commodities are shipped as directly as possible, whether over the railroad's own tracks or those owned by another carrier. I hope that the Association of American Railroads will discuss this issue today in their testimony.

At today's hearing we also want to learn what we are doing to reduce the risk to railroad employees and people living near the tracks, and what we need to do to prevent future tragedies. In the end, we all benefit from keeping hazardous cargo off the road and on a safe, efficient rail system.

And before yielding to Ms. Brown, I want to ask unanimous consent to allow 30 days for members to revise and extend their remarks, and to permit the submission of additional statements and materials by witnesses and members. Without objection, so ordered.

It is now my pleasure to yield to our distinguished ranking member, Ms. Brown, for any opening remarks.

Ms. BROWN. Thank you, Mr. Chairman, for holding this important hearing. I appreciate the work that you have undertaken to discuss in a public forum the safety of rail transportation of hazardous material.

According to the Department of Transportation, rail accidents involving hazardous materials are decreasing. That is the good news. Unfortunately, the bad news is that fatalities increased in 2005. The major injuries resulting from rail transportation of hazardous

materials are the highest amongst all modes of transportation in each of the last ten years.

The accidents in South Carolina, Texas, and North Carolina, and the rail bombings in Madrid and London are a stark reminder to this Congress that we need to do all we can to strengthen rail safety. We need to make sure that our laws and regulations are effective and that they are being enforced; that we are addressing the right problems. Most importantly, we need to make sure our communities, our first responders and our rail workers are safe.

I believe a good start would be reauthorizing the Federal Railroad Administration.

The NTSB has made some excellent recommendations in their accident report, including strengthening hours of service, improving worker training, reduce speeds in populated communities, positioning tanker cars to reduce vulnerability, providing advance notice to switch operators, workers, and providing train crew with proper emergency equipment.

I do understand the pressures being faced by the rail industry, but I am very concerned with any discussion that would reduce the scope of the common carrier's obligation or limit an individual's access to fair compensation in an accident. The common carrier obligation needs to be taken very seriously by both the railroad and this Committee. The Federal Government gave the rail industry the land, the resources, and the equipment to build the Nation's railroad, and I believe it is only fair that the railroads fulfill their obligations to serve the public.

There is no question in my mind that the railroad, chemical companies, and regulating agencies need to work together to come up with a fair and equitable solution to this problem that protects both the interest of the railroads and the safety of the American public. Before I consider any solutions to this issue, I would like to see some progress beyond just research and development of new technologies to make rail operations safer, and I would like the FRA and the railroad to start with the NTSB recommendation, at the very least.

Mr. Chairman, I look forward to hearing from our distinguished panelists.

Also, Mr. Chairman, I ask unanimous consent for Congresswoman Norton to sit and ask questions.

Mr. LATOURETTE. Without objection.

Ms. BROWN. Thank you.

Mr. LATOURETTE. I thank the gentlelady.

Mr. Simmons?

Mr. SIMMONS. Thank you, Mr. Chairman, for holding this important hearing.

As you know, I serve on the Homeland Security Committee, and one of the important issues for that committee is to study rail safety. Our particular focus is rail safety from the standpoint of a terrorist attack, but we all know that there are broader safety issues involving freight rail, and I think it is important that we have this opportunity to hear witnesses and to question them on those broader issues.

So I thank you and the Ranking Member for having this hearing, and I yield back.

Mr. LATOURETTE. I thank you, Mr. Simmons.

Mr. DeFazio?

Mr. DEFAZIO. I will pass, thank you, Mr. Chairman.

Mr. LATOURETTE. Mr. Boswell?

Mr. BOSWELL. Nothing at this time, Mr. Chairman.

Mr. LATOURETTE. Mr. Barrow.

Mr. BARROW. Thank you, Mr. Chairman. The most meaningful thing, the most meaningful statement I can make that is going to come in the testimony of my friend and witness, Mr. Steven Bell, who is battalion chief of the hazmat crew that actually responded to the incident in Graniteville, South Carolina. So the sooner I shut up, the sooner he can heard. So I am going to yield back the balance of my time so we can get to him sooner, rather than later.

Mr. LATOURETTE. I thank the gentleman.

Mr. Osborne, any opening remarks?

Mr. OSBORNE. No, thank you, Mr. Chairman.

Mr. LATOURETTE. Ms. Norton.

Ms. NORTON. Thank you very much, Mr. Chairman. I appreciate the opportunity to sit in, as a very special situation has arisen involving precisely the issues that are under investigation here, and I want to thank you, Mr. Chairman.

This is the first hearing I know in this Congress that has looked closely at what is really a remarkably changed situation, unfair to all concerned; certainly to the common carriers, who have to take everything that is presented to them, and to those who live in the many neighborhoods throughout the Country through which these railroads go. And make no mistake about it, there is no major metropolis in the United States that does not have hazmat going through it every day, and that is because that is the way we live.

These materials start out as toxic. They are often used to make quite benign goods that we all need and use. So this hearing is a real public service, but it is about a very controversial issue. Just two and a half blocks from here is where some hazmat travels, we believe on a daily basis, although that information has really not been available to us.

A scientific study has been done about the effects of an explosion within this region. It is truly frightening to have that presentation made to me and to others in this region, where toxic fumes could go for as much as 20 miles and, depending upon the nature of the substance, could have either consequences of death within an hour to making people very sick and taking longer to die.

Remember, we are talking about a mixture of many different kinds of substances throughout the United States: chlorine, ammonia, hyperchloric and sulfuric acid, and substances that none of us can pronounce because they are being invented every day. What we do know is that, because of our science, we are able to invent increasingly functional but often increasingly benign substances as well.

Now, I also am a member of the Homeland Security Committee. You would think that that is where today's hearing would be held. The issues we are describing are more likely to occur where they have already occurred—in South Carolina, in North Dakota—through an accident. It is the same thing. Increasingly toxic materials, no guidance to the railroads, no guidance to communities as



how to handle this situation. Remember, when you put terrorist threats and risks on top of the accident risk, you really do have, if you will forgive me, a volatile situation.

I think what we have got to do is find a situation that is fair to all. To show you how pathetic this can be, Mr. Chairman, a city council passes a law to forbid these trains from going through the District of Columbia. Well, the fact is they go through Maryland and Virginia as well. And, you know, immediately you see an interstate commerce problem, a problem begging for Federal intervention.

The judge, however, asks to see this study. The judge, when he sees the study, initially refuses to issue an injunction, despite the interstate commerce implications. And there the suits stood for a very long time, until the Administration intervened, Mr. Chairman, to preempt the D.C. law, the Federal Motor Carrier Safety Administration.

Now, listen to this. They preempted the city council. That is the easy part. This hearing is about the Federal responsibility to come forward with a solution that is fair to all concerned. And let us be clear, we are talking about millions of Americans who live close to where these substances go.

The judge tried to broker a settlement because he saw in camera—that is to say, he saw off the record—what the possibilities could be, and he was so frightened, he was not going to take it on himself to issue an injunction. If that doesn't tell us we have a problem before this Committee, yes, and it is a difficult problem.

The problem that D.C. confronted was something that also was not a solution. They simply wanted the trains rerouted. Well, Mr. Chairman, you know what? The tracks are where they are. So the notion of just picking up the trains and saying you don't go there anymore is not a solution to this problem. It may be that we are talking about the Nation's capital and you are talking about all our monument and communities of three million people you may want to do some rerouting. And CSX, the railroad involved, has said that it has done some rerouting. We are not sure because no one has that information.

But the fact is that is not the solution for the Country. Solution of the issues that are before this Committee in part, is there anything we can do without so regulating a common carrier that they can't carry anymore, in which case we have a problem with everybody else? And there is the notion of what it is that communities can do, given the fact that the tracks were laid decades ago to protect themselves, and the kind of guidance that should be offered.

So, Mr. Chairman, I hope that our Subcommittee, working with the Homeland Security Committee, will come forward with something that will instill the confidence of the American people that we are doing something about this. I want you to know that once the city council brought its suits, then we had people all over the United States writing to us saying can we do something similar. We cannot leave this to individual jurisdictions.

First of all, they rightly have no jurisdiction. And if they don't, then the question is who. You are looking at who: us. And then the fact that it is a hard issue, because we have got keep things going and we have got to protect neighborhoods, is no excuse for not

working with the industry and working with the communities to come forward with a solution.

I thank you very much, Mr. Chairman.

Mr. LATOURETTE. I thank the gentlelady very much.

And I am advised Mr. Cummings doesn't have any opening remarks.

Mr. Sodrel, is there anything you want to say?

Mr. SODREL. No, I don't have any opening statement. Thank you, Mr. Chairman.

Mr. LATOURETTE. I thank you very much.

Our first witness this morning is our distinguished colleague from North Dakota, Congressman Pomeroy.

Congressman, we thank you for coming very much. We assume you are going to talk to us about your experience up in Minot, North Dakota. Thank you for your busy schedule, and we look forward to hearing from you.

**TESTIMONY OF HON. EARL POMEROY, AN AT LARGE REPRESENTATIVE IN CONGRESS FROM THE STATE OF NORTH DAKOTA**

Mr. POMEROY. Thank you, Mr. Chairman. I will be brief. I know that this Committee is wrestling, as you indicated in your opening statement, with the national need to transport hazardous material and the inevitability of rail playing a big role in the transportation of hazardous materials.

A facet of this question, of course, is the recourse available to individuals that are harmed as a result of a railroad's negligence in the transporting of those materials. And I certainly don't want that important aspect of this public policy issue to be lost. That is why I believe the incident in Minot is something you need to consider, and the clear status of the law relative to those victims is also something you need to consider in your deliberations. I so appreciate your allowing me to visit with you briefly this morning.

In the dead of winter, in the dead of night, a rail car derailed just outside of Minot, North Dakota—a city of about 40,000. When I say dead of winter, it was late January and the temperature was well below zero. It was about 2:00 o'clock in the morning. People were buttoned up in their homes and that was a huge blessing, because the derailment caused the rupture of seven tank cars of anhydrous ammonia, and a vast poisonous cloud—a thick fog moved over a residential area and ultimately over the city itself before dissipating.

Unfortunately, it hung in the low spots longer, and in these residential areas there was enormous confusion. The train derailment, in rupturing these cars, actually caused one of them to fly more than 1,000 feet through the air and tore off the front end of a bedroom. If the couple in that bedroom had gotten up to look at the window when they heard this enormous crash, they would have been killed. Fortunately, they stayed in their bed. But we did lose a life. An individual trying to get out of there, not being able to see anything, got out of his vehicle and was overcome by this poisonous cloud.

Many individuals who went outside after the derailment will suffer permanent physical scarring, let alone the psychological horror.

It also took down the electrical lines. They were totally without lights. And under the present system of emergency broadcast, as they turned on the radio to find out what in the world was going on, they got soft rock, classic rock, all night talk shows, and no information in terms of the deadly event that was unfolding in their very neighborhood.

In 2002, the National Transportation Safety Board released an investigative report into the incident and found nearly 2,000 defects along the Canadian Pacific rail line in North Dakota. Now, in the ensuing litigation there was a very important ruling, a stunning ruling that came down just in March of this year. A Federal District Court judge in North Dakota dismissed the claims of several victims of the Minot derailment. He found that under the Federal Railroad Safety Act, which contained a clause stating States can only enforce an additional or more stringent law under limited circumstances, that State tort actions were similarly barred and that, therefore, these people had no recourse under State law.

The judge ultimately ruled—and this is against 30 years of judicial precedence, precedence including rail crossing litigation that each of us would have had in our districts—that this portion of the Federal Rail Safety Act preempted all State tort claims. With this ruling and the absence of remedies in the Federal Railroad Safety Act, the Minot derailment victims were left without any remedy for their injuries.

Litigation continues on this case, but if the judge's ruling is permitted to stand, these individuals will have no recourse for their injuries.

What is presented before you, seems to me, are three options: one, no recourse for innocent individuals harmed by virtue of the negligent transportation of hazardous materials by railroad. I think we would all agree that is unacceptable. People ought to have recourse for damages due to a negligent act.

The other two options are you can either leave the responsibility with the railroads and allow them to price in the cost of insurance and the cost of these recoveries into what they charge for transporting these hazardous products, or you can embark on some new program that puts Federal taxpayers on the hook for compensating innocent victims.

Innocent victims harmed; railroads price the cost of covering the cost of that compensation or taxpayers take it over. Those are your choices. I believe this responsibility is most appropriately borne by the rail industry. But I know that in your deliberations you will work this through.

What I hope you will remember is that innocent people can get hurt or killed due to not just the hazardous material, but the negligent transport of that material, as the National Transportation Board found relative to Canadian Pacific in Minot, North Dakota. What do we do for those victims? I believe that we need to clarify the status of things in light of this Federal district court in North Dakota, and I wish this Committee its very best in its deliberations.

I would be happy to take any questions, Mr. Chairman.

Mr. LATOURETTE. Well, thank you very much, Mr. Pomeroy.

Does anyone have any questions of the Congressman before he goes with our thanks? The gentlelady from Florida.

Ms. BROWN. Thank you.

I appreciate all the work that you have done on behalf of the people in North Dakota in the Minot accident. I agree with you, I don't believe that Congress ever intended for the Federal Railroad Safety Act to prevent individual injuries in accidents from receiving just compensation for their injuries. It is my hope that Congress can ratify this situation. And given your background before you came to Congress, what do you think about some kind of national insurance for this kind of situation and some of the other problems we have experienced with the——

Mr. POMEROY. I thank the Ranking Member for her point. It seems incredible after all these literally decades of litigation against railroads, we have all had rail crossing cases in our districts, that suddenly a judge would say, no, railroads are not responsible. Unique to industries operating in this Country, railroads are not responsible for their negligent acts. That is an untenable result and we have got to do something about that.

My own thought is that rail companies, like any other company, ought to have the incentive to avoid negligent acts that civil liability produces. If you do something wrong and you harm somebody, you are going to have to pay for it, so you try to run your operations as safely as you possibly can. I think that is a healthy tension to leave through this liability on the rail industry.

Now, at the same time, a rail CEO probably doesn't want to risk the company's exposure for that, so you want to get insurance. If the insurance marketplace, Congresswoman Brown, has not provided sufficient capacity so that they can reasonably cover this risk, maybe some type of Federal reinsurance layer ought to be established. I think we ought to charge for it. I think these are costs that ought to be borne by the industry and priced into what they charge for carrying hazardous product. That is an expensive shipping rate, and it ought to include all the risks involved.

In other words, I think that that might be one solution to this problem.

Mr. LATOURETTE. Well, Congressman, thank you very much for being with us this morning.

Mr. POMEROY. Thank you. Thank you, Mr. Chairman.

Mr. LATOURETTE. Mr. Barrow.

Mr. BARROW. This round of questioning has prompted a question because I too am open to and sympathetic to the idea of spreading the risk as far and wide as we can, but I think it is important to recognize that good insurance takes those risks that can't be avoided and spreads that as far and wide as possible. The question then becomes how can we minimize the risk and what sort of insurance plan is most calculated to actually reduce the risk.

I consider the taxpayer, the class of taxpayers who would subsidize a Federal insurance scheme and the class of consumers who would end up subsidizing it ultimately under a scheme that puts responsibility on the railroads to answer for the full cost of damage done as a result of negligent handling of hazmat as being largely overlapping. These are like Zen diagrams in which the two groups largely overlap. There is not a complete coextensive overlapping,

but there is a significant extent to which the taxpayers and the consumers, the folks who consume stuff that moves over rail, are largely the same group.

So you could argue from one point of view that the cost is largely the same and it is easier to manage from the taxpayer. My concern is where is the incentive to minimize the risk if the taxpayers, represented by a board of directors that sits here in Congress, is the group that is underwriting this and managing, where is the incentive to minimize the risk? If you have got stockholders for railroad companies assuming the risk and managing this in the private sector, you might have an incentive to minimize the risk.

And, Mr. Hamberger, when you get a chance to testify, I hope the folks will address this issue, because I think the pocket we are reaching into ultimately is the same, but the management of the risk problem and the incentive to increase profits by minimizing these risks as much as possible rests more effectively with the private sector than with the public sector.

So I just want you all to be aware that is my concern. I think the consumer and the taxpayer are largely the same folks. But who is going to be managing the problem of minimizing the risk, because that is where I think we all want to get? We want to have the fewest number of these incidents as possible.

Earl, I don't know if you can address that, but that is an area of concern that I wanted to put on the table after hearing the testimony.

Mr. POMEROY. I will be very brief, but I agree with that analysis. I don't think we want, on the one hand, to expose rail companies to bankruptcy every time they run an anhydrous ammonia car down the rail. On the other hand, I don't think you want to make this industry unique to other industries and say they are not responsible for their actions. Anybody needs to be responsible for their negligent actions. They need to have some skin in the game in the recovery business.

Mr. BARROW. Along those lines, in the health insurance industry we have the idea of co-share and co-pay, a sharing of responsibility, something like that, a blended area of responsibility. Just a thought to consider.

Mr. LATOURETTE. Well, again, Congressman, I thank you for coming.

I would tell you, Mr. Barrow, that I think that that is the first time that the phrase "Zen diagrams" has been put into the record of the Railroad Subcommittee. I appreciate that.

[Laughter.]

Mr. LATOURETTE. You go with our thanks.

On our second panel this morning, we are pleased to welcome back the Honorable Joseph Boardman, who, of course, is the Administrator of the Federal Railroad Administration; and Mr. Robert Chipkevich, who is the Director of the National Transportation Safety Board, Office of Railroad, Pipeline, and Hazardous Materials Investigations.

As soon as everybody gets situated. Gentlemen, thank you very much for coming. We look forward to hearing from you.

Mr. Boardman, you are up.

**TESTIMONY OF THE HONORABLE JOSEPH BOARDMAN, ADMINISTRATOR, FEDERAL RAILROAD ADMINISTRATION; ROBERT CHIPKEVICH, DIRECTOR, NATIONAL TRANSPORTATION SAFETY BOARD, OFFICE OF RAILROAD, PIPELINE, AND HAZARDOUS MATERIALS INVESTIGATIONS**

Mr. BOARDMAN. Thank you, Mr. Chairman, Ranking Member Brown. I think I had the shortest oral testimony in history last time. This one is going to be just a little bit longer, so if you will bear with me. I appreciate being here today representing the Secretary of Transportation and the FRA.

I think you pointed out in your opening statement some of the history of the Federal regulations on hazmat transportation with the Hazardous Materials Act. I would like to talk about this in terms of a design, construction, and maintenance of railroad tank cars that has been regulated for much, much longer than many people understand. As a matter of fact, it was in 1865 that the railroads began to really operate tank cars, and they actually regulated this for over 100 years.

In 1903, the master car builders at that time published the first standards, and for chlorine tank cars it was three-quarters of an inch of carbon steel surrounded by 4 inches of cork insulation and an eighth inch metal jacket. In 1927, the ICC adopted those standards as Federal regulations, and they have progressed into our present day requirements.

The NTSB has recognized that three major improvements alone have reduced punctures, fires, catastrophic ruptures to tank cars, that is, shelf couplers, both bottom and top couplers; head shields on the front and rear tanks; and thermal protection of the tanks. Those improvements have really come about with the efforts of PHMSA, my sister agency, the FRA, and the industry working together to improve tank car safety in a long period of time.

But work to improve tank car survivability has not stopped. Skid protection for protruding bottom outlets, part of the list of additional requirements that have taken 10 years to phase in will be complete on July 1st of 2006. And research resulting from accidents such as Minot or Graniteville and the SAFETEA-LU Section 9005 have all provided a continuing focus on the conditions of affecting survivability and integrity of tank cars in an accident.

However, the FRA's primary mission—and I also believe the industry's primary interest—is in preventing accidents. We know the causes for most accidents, and over 70 percent of them come from just two categories. Human factors account for 37 percent of all accidents. Failure to clear the track, failure to clear a shoving move, and failure to properly align a switch are primary factors relating to accidents. The FRA will publish a proposed rule on these factors this fall.

But regulation is only one of the ways we try to prevent accidents. Education is another. And we will publish a final report on research that will help all railroads improve crew scheduling in August of this year. These are both part of the Secretary's National Rail Safety Action Plan announced last May. Other elements, like the National Inspection Program, direct safety inspectors to where problems are likely to arise, and all disciplines now are subject to this new plan.

Track failure accounts for 34 percent of all accidents. Broken rail, joint bars, and wide gage are the leading causes of track failure. Research is a key element of accident prevention. Vehicle-mounted imaging technology to analyze rail joint bars to identify and detect cracks has done so well that railroads are becoming believers very quickly and adopting the technology for their high-railers. The FRA will deploy two additional automated track inspection vehicles that will be able to analyze, when combined with the one we already have on the rails, 100,000 miles of track per year.

The FRA is also working with BMSF on remotely monitoring switch positions in dark territory, and expect to issue a report this fall. We will also begin a close call pilot project with the UP in North Platte, Nebraska on July 1st, where what should have been an accident, but was not, will be reported as part of our ongoing research.

Railroad obligations to carry hazmat, routing requirements for those shipments, preemption and liability exposures are important issues and deserve serious discussion. Those serious discussions are already being held not just here, but at the AAR, both at their Tank Car Committee and their other meetings, the American Chemistry Council and tank car builders, and the FRA's RSAC Committee and their working groups, and others.

The FRA wishes to complete the tank car research that it has committed to prior to making major changes in the industry standard that the AAR Tank Car Committee is contemplating. The FRA has accelerated its research by one year, adding additional resources to our plan to be done by research now in 2007, rather than in 2008. We have also taken statements in a two-day information gathering here in D.C. on May 31st and on June 1st with over 20 speakers from the industry. We did this in conjunction with PHMSA and will open a docket on the issue of the tank car construction.

I have been the administrator for a little over a year now, and I can tell you that both the Department, led by the Secretary, and the agency, filled with dedicated rail knowledgeable staff, keep all elements of safety firmly in mind, with prevention being the primary mission and mitigation or survivability of an accident the highest priority if the worst happens. Most railroads today are striving for a safety culture in each of their work environments. From the cab of the locomotive to the switching yard, working with all interested parties, from management to union to customer to consignee, safety can be and is being improved.

Freight scope is the newest reporting pilot that will provide better information to communities and those who need to know where hazmat shippers are. Working with the TSA, the FRA short lines and Class I railroads are making major improvements in near real-time reporting. I believe that working together will make railroads safer and do it in a way that allows economic benefits to be balanced.

Thank you for your accommodation of my overrunning time.

Mr. LATOURETTE. Well, thank you very much, Administrator Boardman. Just for purposes of the record, would you be kind enough to introduce Mr. McGuire, who you brought with you?

Mr. BOARDMAN. Mr. McGuire is with the PHMSA organization and is here as an expert if needed.

Mr. LATOURETTE. Thank you very much.

Mr. Chipkevich, welcome to you, and we look forward to hearing from you.

Mr. CHIPKEVICH. Thank you. Chairman LaTourette, Ranking Member Brown, and members of the Subcommittee, thank you for the opportunity to discuss issues on the transportation of hazardous materials by rail.

Following catastrophic accidents in the 1970's, safety mandates such as shelf couplers, head shields, and thermal protection have improved the performance of tank cars and accidents. Despite these improvements recent accidents have raised new concerns about the transportation of hazardous materials in tank cars.

The derailment of a Canadian Pacific train near Minot, North Dakota in 2002 resulted in a catastrophic failure of five tank cars. Each tank car held about 30,000 gallons of anhydrous ammonia, a poisonous liquified gas. The accident resulted in a toxic plume approximately 300 feet thick and 5 miles long. An estimated 11,600 residents of Minot were affected. One resident was fatally injured and 322 sustained minor injuries.

In 2004, a Union Pacific train struck a BNSF train as the BNSF train entered a siding near Macdona, Texas. As a result of the collision, a tank car filled with chlorine was punctured. Three persons died as a result of chlorine gas inhalation.

In 2005, a Norfolk Southern train encountered an improperly aligned switch in Graniteville, South Carolina. The train was diverted onto the siding, where it struck a parked train head-on. A tank car filled with chlorine was punctured, and 9 people died as a result of chlorine gas inhalation and 75 were admitted to hospitals.

As a result of the Minot investigation, the Safety Board concluded that the low fracture toughness of steels used in the tank shells that catastrophically ruptured contributed to their complete fracture and separation. The Board recommended that the Federal Railroad Administration conduct a comprehensive analysis to determine the impact resistance of the steels in the shells of pressure tank cars constructed before 1989; based on the analysis, rank the pre-1989 pressure tank cars according to risk and implement measures to eliminate or mitigate those risks; to validate the predictive model being developed to quantify the dynamic forces acting on railroad tank cars under accident conditions; and develop and implement fracture toughness standards for steels and other materials of construction for pressure tank cars used to transport liquified compressed gases.

We believe that the development of the predictive model and implementation of fracture toughness standards go hand in hand and will lead to tank car designs that can provide improved structural integrity and puncture resistance.

In Graniteville, the steel in the tank shell of the punctured chlorine car had a fracture toughness that was significantly greater than the fracture toughness of the tank cars in Minot. Because of the improved properties of the steel and increased wall thickness, the Graniteville tank car was among the strongest tank cars cur-



rently in service. However, the Board concluded that, as shown in the Graniteville accident, even the stronger tank cars in service can be punctured in accidents that involve trains operating at moderate speeds.

Modeling accident forces and applying fracture toughness standards will improve the crash worthiness of tank cars. However, because of the time that it will take to design and construct improved tank cars, the most expedient and effective means to reduce public risk from the release of poisonous gases in accidents is for railroads to implement operational measures that will minimize the vulnerability of tank cars transporting these products.

The Board recommended that the FRA require railroads to implement operating measures such as positioning tank cars toward the rear of the trains and reducing speeds through populated areas to minimize impact forces from accidents.

The tank car failures I have discussed are the consequences of train derailments and train-to-train collisions. Reducing train derailments and collisions can also reduce the risk of catastrophic tank car failures.

Human performance failures have resulted in numerous collisions that could have been prevented with a safety redundant system such as positive train control. A recommendation to require positive train control systems has been on the Safety Board's list of most wanted transportation improvements since 1990. Inadequate track maintenance and inspections have been causal to several serious accidents, including Minot. Greater attention to track inspections and maintenance by the railroads and the FRA can help reduce derailments and tank car failures.

Mr. Chairman, this completes my statement. I would be happy to respond to questions at the appropriate time.

Mr. LATOURETTE. Mr. Chipkevich, thank you very much for coming and thank you for your testimony.

Administrator Boardman, I want to start with you. The members of the Subcommittee have had the opportunity, twice in the last couple years, to travel out to your testing facility in Pueblo, Colorado. It was recently—and for those who haven't been out there, they basically permanent train derailments for the purpose of hazmat training and other training, and there was a group from Union Pacific I think was training when I happened to be out there.

I have been advised, though, that the facility in Pueblo has the capacity to double or triple what the current amount of training that currently goes on. Are you aware that you have additional capacity, that there is additional capacity?

Mr. BOARDMAN. I know that in some of the discussions, Mr. Chairman, that we believe that we could use more training. We have some, for example, other facilities that are beginning to train now too, so, yes.

Mr. LATOURETTE. OK. I guess my question is why—has there been any dialogue between DOT and FRA with the Department of Homeland Security, and do you know why they wouldn't be interested in using—the figure that I was told was that there could be three times as many training sessions out of Pueblo as currently exists, there is enough capacity for that. Are there discussions

going on with the Department of Homeland Security to get more first responders trained in that type of setting?

Mr. BOARDMAN. Well, I think the Department of Homeland Security is using a training facility in Texas right now. Certainly, they could. And I haven't had any direct discussions with them, but I can have. They could have use of especially train or locomotive railroad facilities if they come to Pueblo, and I will take that up with the TSA deputy.

Mr. LATOURETTE. OK. I would appreciate that. Secondly, when Congressman Pomeroy was talking, I think he was focusing on—I guess it is the 8th Circuit, kind of a strange decision that indicated in the Minot hazmat release case, the decision held that the Federal Railroad Safety Act preempts State tort law and precludes recovery by an injured party for any alleged negligence in the accident. It came as a surprise to me, and I think it also came as a surprise to the railroads. I am not going to speak for the railroads—in that they assume that section 201.06, on the preemption of order and regulation, referred to regulatory requirements, not tort law.

My question is was the FRA consulted, either on a referral basis or did the district courts ever reach out to the FRA for the purpose of filing an amicus brief just to collect the Administration's view on that?

Mr. BOARDMAN. We are considering being able to do something like that. We have not been a party to this particular lawsuit. And I do have some expectation—it is also being reviewed now—that there might be a different decision.

Mr. LATOURETTE. OK. In my opening remarks I talked about the fact that I don't think rerouting, the city sort of up and doing this not-in-my-backyard business is a good idea. But I do think that the FRA has the authority—and I think you have already exercised it under section 333—to promote a conference among the rail carriers to, while shielding them from any antitrust violations, to discuss more direct routing of trains, so that if you had a tank car filled with chlorine that was leaving Louisiana, that it wouldn't have to go to Detroit before it came back down to Cincinnati, it could just be more direct. So I appreciate that kind of effort.

Is it your understanding that the Department of Transportation has any coercive ability, and that is, when you listen to Mr. Chipkevich's testimony, he didn't say the best tank car, but I understood him to say that the one in Graniteville was a pretty good tank car based upon today's standards, and any tank car, even with that kind of technology, in a, I think he said, a moderate speed collision, we can have difficulty.

Is it your understanding that the FRA or the DOT has the ability to coerce or mandate that less volatile alternatives be shipped than are actually—for instance, if a conclusion is reached that we can't safely ship a certain substance without the danger of release in a moderate collision accident, do you think that the FRA has the ability to preclude the shipment on some lines of exceptionally hazardous materials?

Mr. BOARDMAN. I believe that a large part of that body of ability rests with the STB, rather than with the FRA. And certainly there is an interest on everybody's part in reducing the risks. And I know

in some cases, in terms of the kinds of things that have happened with railroads, that they would just as soon not carry some of this material, but they do have a safety record. In fact, Mr. Chairman, if you look over the last ten years, while every life is absolutely precious, we have lost 14 of them to releases in the railroad industry and over 100 in highway-related hazmat releases, and I think that that alone demonstrates the safety of the rail side.

Mr. LATOURETTE. Thank you.

Mr. Chipkevich, just one question for you. I was visited by the family of the engineer who lost his life in the Graniteville accident, and they made the observation or had the opinion that if the train had been outfitted with breathing equipment, their son may have survived. Did the NTSB make any recommendations or observations relative to train crews being given gas masks or other escape hoods for these types of collisions?

Mr. CHIPKEVICH. Yes, sir. The Safety Board also found that the engineer had survived the dynamics of the crash and had ultimately died from inhalation of chlorine, and we have made a recommendation to the FRA to look at providing a requirement to provide protection for crew members to be able to escape that type of situation.

Mr. LATOURETTE. OK. Thank you very much.

Ms. Brown?

Ms. BROWN. Mr. Boardman, I want to follow up on that question. The NTSB has recommended that railroads provide emergency escape breathing apparatus for all crewmen on freight trains carrying hazardous materials. What is FRA's response to this recommendation?

Mr. BOARDMAN. It is a recommendation that we certainly are looking at in terms of what are the elements of this. I would like to take you back for a minute, if you would, to my younger days as a transit manager in Binghamton, New York, when there was a derailment and a release many years ago, when I was not involved with the FRA or the railroads. My job at the time was to evacuate the community and the senior citizen centers and some of the facilities, and you had to tell your drivers to go down into the location where this release occurred, and we did that.

There was a delay on the part of decision-makers about when they were going to release the senior citizens from the home. And I know one of the things that we had in discussion with our union and our employees was perhaps if we were going to do that kind of thing in the future, we needed to have some kind of a breathing apparatus that would assist us.

So part of the difficulty here—and it is a very complicated issue in the fact that it cannot be a filtered apparatus, because a filtering apparatus would only be for something that was within the air and didn't displace the air like some of the hazardous materials that we are dealing with. So we are really talking about an air pack type of a breathing apparatus, if that is necessary. And the training, the inspection, and all the things that go along with it are all additional complications in the process, but something we are looking at.

Ms. BROWN. In SAFETEA-LU we provided \$4 million per year to nonprofit employee organizations to train hazmat employee instructors. What is the status of implementation of that program?

Mr. BOARDMAN. Yes. As part of SAFETEA-LU, the grant program was greatly enlarged, and one of the new provisions was for that program. We are working to implement that program. It will be implemented in 2007. The passage of the bill was such that we could not get the funding and get the procedures underway for this grant cycle, but it will be implemented next year.

Ms. BROWN. Mr. Chipkevich, in the Amtrak accidents the NTSB has investigated, how many of those accidents was Amtrak's fault and how many was the freight rail's fault? Who is responsible in the event of an Amtrak accident, Amtrak or the freight railroad?

Mr. CHIPKEVICH. In the past ten accidents we have investigated involving Amtrak, eight have been derailments because of track problems, and they were operating on tracks that were owned by freight railroads. The other two involved collisions, one is up near Syracuse, New York, where an Amtrak train rear-ended the rear of another train and a side collision in Baltimore with a Marc train.

Ms. BROWN. Just to follow up on that one, so, I am not clear. Who is responsible for maintaining the tracks?

Mr. CHIPKEVICH. Well, in the eight accidents we investigated, the track was owned by the freight carrier and would have been maintained by the freight carrier.

Ms. BROWN. Well, who pays the damage?

Mr. CHIPKEVICH. NTSB does not get into the damage issue of who pays cost on that, but, rather, in determining probable cause and finding track-related problems, that would have been track maintained by the freight carrier.

Ms. BROWN. So you can't answer that question or you don't get into it? Do you know the answer to it?

Mr. CHIPKEVICH. That is correct, we don't—NTSB does not determine liability, and so as far as issues regarding payment later and things of that nature, NTSB has not gotten into.

Ms. BROWN. Mr. Boardman, can you answer that question?

Mr. BOARDMAN. Generally, it is Amtrak is liable and responsible based on the agreements that they have with the freight railroads.

Ms. BROWN. So whether they are at fault or not, they have to pay for the accident?

Mr. BOARDMAN. If there is a claim that occurs. Now, for example, I think—and I don't know, maybe Ed or somebody can help me out a little bit with this, but the freight railroads would be responsible for repairing their own facilities, I believe, but in terms of damages or suits to people, it would be Amtrak.

Ms. BROWN. So just help me here, now. Of the ten accidents that Amtrak has been involved in, eight of them were caused by the tracks not being kept up properly. So Amtrak, from what he is saying, was not really responsible for it, but they had to pay for it.

Mr. BOARDMAN. That is correct, if that is the way Chip has put it down. Amtrak is responsible for accidents that occur.

Ms. BROWN. Whether they are at fault or not.

Mr. BOARDMAN. That is a relationship between them and the freight railroads themselves for a right to operate on the freight railroads' facilities.

Ms. BROWN. Well, do you not think it is the responsibility of the railroad to make sure that the track is in proper——

Mr. BOARDMAN. It absolutely is a responsibility of the railroad for that, of the freight railroad.

Ms. BROWN. All right, Mr. Chairman.

Mr. LATOURETTE. I thank the gentlelady.

Mr. SIMMONS.

Mr. SIMMONS. Thank you, Mr. Chairman.

I would like to make reference to a report produced by the Teamsters Rail Conference called High Alert. I think the witnesses may be aware of this report. The topic is "Workers Warn of Security Gaps on the Nation's Railroads." And one of the areas that is of particular interest to me is the area of railroad security or railroad police, and one of the sets of questions that was put out in a poll to railroad workers is: Was the rail yard access secure today? Yes, 6 percent; no, 94 percent. Was there a visible rail police presence in the yard today? Yes, 4 percent; no, 96 percent. Was equipment access secure today? Yes, 10 percent; no, 90 percent.

I guess my question goes again to the issue that rail safety can be an issue of negligence, but it can also be an issue where some foreign entity, a terrorist group or some other disruptive group, wishes to take advantage of the openness and access of our infrastructure to cause us harm and to cause us damage. We are certainly familiar with the attacks on the railroads in Spain, which were passenger railroads, and of the subways of London.

So my question to you as Federal regulators is what role or responsibility do you have for rail security through rail police or other police measures, and what progress are we making to improve that security in the yards, on trains that are idling without crews on board, on movable bridges and other nodes of access for terrorist groups.

Mr. BOARDMAN. Congressman, I think that ever since the events of 9/11 there has been a continuing debate, struggle, difficulty on the openness of our society and how we deal with the availability of everything that is out there in front of us, and we recognize, for example, at the FRA, when you look at, today, the results of how people are killed on the tracks or fatalities occur, that a large percentage of that, matter of fact, the highest level today is trespass, and people that are getting on the tracks, that are getting near the tracks, that we are having a great difficulty with that.

And we are trying to find the profile—the largest majority of that, in fact, all of them, are not terrorists, they are just people who are trying to exercise, they are people who are trying to find a quiet place or having a party of some sort or we don't know all the reasons why. That is a real problem for our industry. The railroads themselves, the FRA and our encouragement in the process, have begun to really think about how do we train, how do we tell our employees to try to be more secure. The common sense of people in sometimes just throwing their hands up; well, what does that mean, how do you deal with this?

I recently watched a video, I think, produced by Norfolk Southern that really made a lot of common sense, and what it was was that it is those people that are employed every day that are in that facility, that go to work every day, that knows when something is out of place. And I think that part of the education that is occurring here today is to be much more vigilant in terms of what is going on around you.

For example, in our own building on Vermont Avenue here this past fall, we share that with some of the DHS folks, and there is always something going on with DHS in terms of the building itself. They have a larger part of that particular facility than the FRA does.

And I walked out one afternoon and there were people taking pictures and writing notes around the building, looking at the building, and I thought to myself, OK, if I am supposed to be paying attention to what is going on around me, I am going to go up and introduce myself and find out what these folks are doing. And they were doing a contract for DHS, but we weren't told at the time that that was the case, and I went over to find out what happened.

I think what we see happening today—and I understand the high alert and the interest of the employees, because there is a high level of anxiety that occurs out there, not just in terms of the potential for somebody putting an IED on one of the trains—and that is part of what is in the video, looking, as you inspect your train, as you walk your train, what can you see?

Mr. SIMMONS. Mr. Chairman, if I could interrupt, because my time is rapidly disappearing, and I don't think I am getting the answer that I want to hear.

One of the other questions was has your railroad increased the frequency of inspections at critical infrastructure secure points? No, 42 percent. What additional training related to terrorism prevention have you had, if any? No, 83 percent.

My question is what is the FRA doing to try to implement a program either to educate employees—I agree employees are the ones that know the yard best; it is like a neighborhood watch. Have they been brought into the system of securing these facilities? Is there a reporting mechanism that the FRA has recommended on these issues? And I am not hearing that there is any such program.

Mr. BOARDMAN. I understand. And I think we are working with TSA, who has the primary obligation for security, to try to make those things happen.

Mr. SIMMONS. Thank you, Mr. Chairman.

Mr. LATOURETTE. I thank the gentleman.

Mr. DeFazio.

Mr. DEFazio. Thank you, Mr. Chairman.

Mr. Chipkevich, I notice that you say—there are two things that sort of jump out at me here. One is—and I am more familiar with your frustrations in the area of aviation security that I see here, or aviation safety. A recommendation for requirement for positive train control systems has been on the Safety Board's list of most wanted transportation safety improvements since 1990. That would seem to be 16 years ago. And I note that apparently the FRA response has been to develop standards, but no mandate, is that cor-

rect? And does that meet your concerns, by having standards but no mandate for positive train control?

Mr. CHIPKEVICH. Well, that is correct. We certainly believe that there should be a requirement for positive train control systems. We have investigated a number of accidents that are continuing to occur that are either collisions, missed signals, running through switches that were left in the wrong position, things of this nature that can be prevented by a train control system. We know and understand that some of the railroads are working to develop those systems, and we have seen more work in the last couple of years than we have in a long time, but we certainly still feel that this is something that should be required.

Mr. DEFAZIO. And I know, as you said in response to an earlier question, you don't determine liability and that, but if—and perhaps you may or may not want to venture an opinion on this, but if the rail industry is asking for some sort of safe harbor, partial protection or mandates regarding shared liability or liability limits, do you think that implementing these sorts of procedures would be, one, sort of minimal prerequisite to Congress going down that path? Because otherwise it seems to me if they haven't implemented positive train control—you have identified it to be a frequent and ongoing problem—that not having that as a mandate would be a problem. Or maybe the ones who voluntarily do it could get some assistance or limits on liability, and the ones who don't want to, they can just be out there.

Mr. CHIPKEVICH. Well, we have not ventured into the liability issue area; however, we do believe that positive train control is a very important safety redundant system. It is across the Nation where we have had—it is not just in one local area, but across the Nation where we have investigated head-on collisions and a lot of accidents where we believe that would be very effective.

Mr. DEFAZIO. All right.

So, Mr. Boardman, why would we just make it advisory, voluntary, and not mandatory, with some sort of reasonable period to phase that in?

Mr. BOARDMAN. Congressman, I think that what we have worked with is with the railroads to develop the right kind of assistance, and certainly on the northeast corridor today and the communication-based train control with Amtrak, that is working.

Mr. DEFAZIO. Yes, but we are here talking about freight, we are not——

Mr. BOARDMAN. But we also have a product safety plan from the BNSF right now for an ETMS system, and we think we are making progress in that area.

Mr. DEFAZIO. But why wouldn't you want to make it a requirement instead of voluntary and phase it in over a period of time if it has been identified consistently as a factor in accidents and it has been, for 16 years, their most wanted improvement in rail safety, and many accidents have occurred since then?

Mr. BOARDMAN. Because what we really believe is that there is a need for us to have the technology and a cost benefit that provides the right facility for the future.

Mr. DEFAZIO. Well, cost benefit, but they are asking for some liability exemptions. So how would we factor that in?

Mr. BOARDMAN. Well, I think——

Mr. DEFAZIO. I mean, the point here is that there should be some quid pro quos. The chemical industry is going to have to take part of the cost here with improved design of the cars. The rail industry wants some relief here, but I think there should be some improvement in performance required to get any sort of relief that Congress might grant them.

And you are saying, well, someday, if it fits their cost model and when we have railroads like in my part of the Country being dominated by UP, who has been, you know, until very recently, disinvesting in the system, I don't see that they are exactly a leader in new technology and positive train control or moving in that direction without some sort of mandate or deadline.

Mr. BOARDMAN. I think the UP is, but I do understand your point.

Mr. DEFAZIO. OK. But, again, I am going to suggest strongly to the Chair, if we are going down that other path, that there is going to be some sort of quid pro quo.

Where are you on the standards we required in TEA-LU, SAFETEA-LU in terms of developing new models and standards? It seems to me another thing here that seems like a no brainer—but I guess, again, it might impose some minimal cost because they would have to move cars more—is, Mr. Chipkevich, would it really help to put these cars toward the rear of the train?

Mr. CHIPKEVICH. We have reviewed studies that have been conducted in the past, and the answer is yes. We believe that certainly the forces involved in an accident, the energy, would be significantly less affecting the cars towards the rear of the train. And studies that we have looked at have supported that.

Mr. DEFAZIO. So, Mr. Boardman, where are we on perhaps asking them to develop voluntary models——

Mr. BOARDMAN. We don't agree with NTSB.

Mr. DEFAZIO. Oh, you don't.

Mr. BOARDMAN. We have looked at our own studies, and random placement of the cars is just as good as the other kind of placements, placements to the rear. For example, if you are going to specifically locate them, the number of times that you have to cut the train and move them increases the risk of the opportunity for a release.

Mr. DEFAZIO. So cutting and moving at very slow speeds in yards is as dangerous as trains being derailed operated at higher speeds and/or crashing?

Mr. BOARDMAN. They are for employees, Congressman.

Mr. DEFAZIO. Right.

Mr. BOARDMAN. For the employees of the railroad. And the non-accident releases that we have each year, which are nearly 700, are really on the low-speed yard kind of transfers, and those kinds of things increase the risk, we think, for the overall picture.

Mr. DEFAZIO. OK.

Thank you, Mr. Chairman. My time has expired.

Mr. LATOURETTE. I thank the gentleman.

Mr. Cummings?

Mr. CUMMINGS. Thank you very much, Mr. Chairman.



Mr. McGuire, Section 7131 of SAFETEA-LU requires PHMSA to conduct nine multi-modal studies on hazmat transportation as described in TRB Special Report 283, and I am wondering, DOT is to submit a report on the need for cooperative research program on hazmat transportation.

Can you update us on the status of that? That was my provision. Those are my provisions in the SAFETEA-LU bill, and I just want to make sure it is working and something is happening. You can go ahead.

Mr. MCGUIRE. Yes, Mr. Congressman. We have put in place a contract with the National Academy of Sciences. We are negotiating with them right now. The funding for this year will be about \$900,000 because of the over-subscription of the Highway Trust Fund. But those monies are now available to us and we are working on setting up the oversight committee for the cooperative program, and that program will be underway by the end of this fiscal year.

Mr. CUMMINGS. OK, thank you.

Mr. Chipkevich, I want to return to the hazardous materials transportation issue. In January of last year, the NTSB released a brief on the Baltimore Tunnel fire that actually took place back in 2001. In other words, NTSB took three years, three years, to release a report on this accident. Can you explain to me why it takes so long, particularly when you are talking about hazardous materials, you are talking about safety issues, things that probably need to be corrected, and it takes three years?

Mr. CHIPKEVICH. Yes, sir. That was an accident that we could not determine what the cause was. We spent extensive resources to do a finite element analysis of the tunnel structure, to do further examination. There were millions of gallons of water that flushed through that tunnel following the accident, before we could get access to it, so there was a lot of work and examination done.

On the contrary, the accident in Graniteville, South Carolina, we did complete in less than a year, where the circumstances were more clear on what the cause of that accident was. So sometimes the complexity of the accident, as well as our resources, will affect how long it takes us to complete it.

Mr. CUMMINGS. Talking about resources, do you feel that you have enough resources and personnel to do what needs to be done?

Mr. CHIPKEVICH. We have asked for additional resources in the past, and we have 13 investigators, basically two teams to cover the entire United States for all accidents.

Mr. CUMMINGS. So in a reasonable, ideal situation, how many teams would be suitable and reasonable?

Mr. CHIPKEVICH. Certainly, we have provided—we can provide for the Committee the requests that we have made by number in the past, but we have asked for, gosh, in the neighborhood of about double the number of investigators that we do have.

Mr. CUMMINGS. All right, so, in other words, basically four teams?

Mr. CHIPKEVICH. Yes, sir.

Mr. CUMMINGS. All right, fine. Let us go back to you just mentioned the Graniteville, South Carolina situation. Tell me, what do you believe needs to be done to improve the ability of local first re-

sponders to respond to a hazardous materials incident on a train? In other words, what are the main weaknesses in our current first response capability?

Mr. CHIPKEVICH. Well, we felt in Graniteville, the local emergency response staff did a very good job, considering the situation that they faced. We believe that—and we have done studies over the years with a lot of accidents—a need for there to be good coordination ahead of time between local responders and the railroads so that when an accident happens, local responders will be able to get information from the railroad quickly about what is involved in the derailment, and then can make a good decision on actions that they need to take, whether it is evacuating or sheltering in place, and what type of resources they would need. So I think the most important issue is preplanning and coordination between railroads and the emergency responders.

Mr. CUMMINGS. Mr. Chairman, I will yield back to give somebody else time to ask questions.

Mr. LATOURETTE. I thank the gentleman very much.

There are currently two votes occurring on the floor, so we are going to stand in recess. The Chair would ask members that have additional questions of this panel to sort of hustle back after the second vote. We have two more panels that each have four witnesses, and the Coast Guard Subcommittee wants the room at 1:00, so we want to try and move forward.

We stand in recess subject to the votes on the floor.

[Recess.]

Mr. LATOURETTE. If I can ask everybody to find a seat, we will get started. I apologize for the delay. They tell us the next votes are going to be in a couple hours, so hopefully we can get through the other two panels.

Mr. Barrow.

Mr. BARROW. Thank you, Mr. Chairman.

Mr. Boardman, if I understand correctly, the NTSB is of the view that car placement is in the area of railroad operations that can address not the issue of trying to reduce mishaps, but trying to make them more survivable, more crash worthy. The issue of car placement moves on a parallel track, it seems to me, then the issue of trying to prevent accidents, because if we can make all these poison containers absolutely puncture-proof in any and all incidents, we could tolerate a fair number of mishaps and nobody—no innocent bystanders would be hurt. But since we can't, we can't eliminate mishaps altogether, it seems to me we have got to try to move the train down the track on parallel tracks.

We ought to try to make accidents as preventable as we can. We also ought to make them as survivable as we can. And making them more puncture-proof is one way of making them survivable. That leaves the universe of incidents and accidents just as violent and just as frequent as they are right now. All the things being equal, make them tougher and they will be more survivable. All things being equal, reducing the number of incidents and you have got more people surviving.

Let us take the same number of incidents. Just take the equipment as we find it, but rearrange stuff on the trains in such a way as to put stuff in different areas of the train, and a good case

can be made that you can make a lot of these incidents more survivable for people, for all concerned.

Now, I hear the NTSB saying that is what we ought to do, and I hear you saying that the FRA disagrees with that assessment because you all throw into the assessment the frequency of minor mishaps happening in the yards at yard speeds, and incidents like that. And you say when you compare that to the incidents we are dealing with at track speed incidents, it is really more risky to have a policy of deliberate placement of hazmat cars toward the end of trains. You say random placement is better than a consistent policy that tries to minimize the incidents.

But I read that back in 1992 the FRA issued a report, and it was entitled "Hazardous Materials Car Placement in a Train Consist," and it took the exact opposite position that you are expressing today. What happened between 1992 and today to make a policy of placing your more hazardous stuff toward the rear of the train a better idea back then than it is now?

Mr. BOARDMAN. I think, Congressman—and I understand, it is a very thoughtful question and you certainly got to the heart of a lot of the issues. We certainly have a—when a consist goes together, a preferred way that we would like to see the consist put together with hazardous materials. For example——

Mr. BARROW. I heard you before say that random is better than——

Mr. BOARDMAN. Well, I may have misspoken in some ways, but the study that I am relating to—and I can ask staff for a little more specificity to it—is we looked at the random placement of cars on the——

Mr. BARROW. Is it a published report?

Mr. BOARDMAN. Yes, I believe it is.

Mr. BARROW. Can you get that for us?

Mr. BOARDMAN. Certainly. We looked at that and we found that there really wasn't a difference in the kind of risk that you were dealing with with that random placement, especially when you look——

Mr. BARROW. Well, let me tell you the difference that I foresee, because I can see, right offhand, a difference between a lot of mishaps involving trains moving around in the yard at 4 and 5 miles an hour. The zone of people responsible for the mishaps are the people exposed to the risk. They are trained to prevent the mishaps. They are the ones who face the consequences if there are any mishaps, and the mishaps are much smaller in proportion because you have got minor things happening in the same place at minor speeds.

You contrast that with incidents that occur at track speed out in dark territory in the middle of the night, the risk of a bigger spill is much greater, the universe of people who are affected by the risk is altogether different. You are not talking about folks who are trained to prevent it and trained to respond to it, you are talking about innocent bystanders dying in their sleep.

I just cannot understand how there is—of course, if we had that kind of thinking, that because you have got a new kind of risk created by this policy, as opposed to the old kind of risk we are trying

to eliminate, we would never have seatbelt laws. There are people who are actually injured as a result of seatbelt use.

But the number of people who are saved by seatbelt use is vastly larger. The risk of preventable harm is greatly reduced by a deliberate policy of seatbelt use. And this Government promoted that through laws that encourage folks to assume the much smaller risk of being hurt by a seatbelt in exchange for the much greater benefit of not being harmed by not wearing seatbelts. When we spread that across the whole universe of people exposed to risk, that is the benefit, the public safety benefit we get out of that.

I have a hard time understanding how the FRA can think that what happened to the folks at Graniteville is the price we ought to pay in order to minimize the number of——

Mr. BOARDMAN. Well, the FRA did not say that, Congressman.

Mr. BARROW.—to minimize the much smaller risk of harm to a much smaller zone or universe of trained professionals who are trained to prevent much smaller mishaps from happening and who are trained to respond to it. Seems to me that is a hell of a policy.

Mr. BOARDMAN. I understand, and I will get you that study.

Mr. BARROW. Yield back.

Mr. LATOURETTE. I thank the gentleman.

Ms. Norton.

Ms. NORTON. Thank you, Mr. Chairman.

Mr. Chipkevich, I just want to confirm that on April 10th your agency preempted D.C. law and gave 20 days to appeal. What is the status of that, has there been any appeal of that?

Mr. CHIPKEVICH. No, ma'am, that would not be our agency.

Ms. NORTON. That wasn't your agency?

Mr. CHIPKEVICH. Pardon me?

Ms. NORTON. That was not your agency?

Mr. CHIPKEVICH. No, ma'am.

Ms. NORTON. Oh, no, I am sorry, you are the National Transportation Safety Board. I am sorry.

Mr. CHIPKEVICH. Yes, ma'am.

Ms. NORTON. Mr. Boardman, do you know the status of——

Mr. BOARDMAN. Congresswoman, I was just checking. I think that is FMCS. Do we know the—we do not know.

Ms. NORTON. As I indicated in my opening statement, I am also a member of the Homeland Security Committee, and I appreciate that we are discussing liability here, but I suppose the fact that I represent the District of Columbia and am on that Committee gives me a notion of preemption as well. It is less preemption of law than preemption of accidents and risks.

I recognize the difficulty posed by the increasing toxicity of what you are forced to carry, what railroads are forced to carry, and the risks from terrorism. May I ask, Mr. Boardman, if hazardous substances are still being transported within two and a half blocks of the Capitol itself?

Mr. BOARDMAN. We would have to defer to TSA to answer that question to know specifically whether that is occurring.

Ms. NORTON. You do not know whether or not—you, the Railroad Commission, do not know, do not have any information——

Mr. BOARDMAN. Congresswoman, it is part of their security program, and we do not talk about their mitigation measures.

Ms. NORTON. So you know but will not talk about their mitigation?

Mr. BOARDMAN. I am not permitted to talk about it. TSA should be the one that answers that question.

Ms. NORTON. Well, you can imagine the position it leaves those of us who come to work every day in the Capitol and those of us who happen to live in this region, including 200,000 residents who cannot find out even at a hearing whether or not these substances were still traveling close to the monumental core. The notion that that—we had information, for example, to the effect that that was not the case, but you are saying you cannot confirm that that is the case?

Mr. BOARDMAN. Congresswoman, we can give you that information, but not in a hearing open to the public. We can provide that information.

Ms. NORTON. I very much appreciate that that might not be information you could give here. How might I be assured of getting that information? I also have no reason to make public information that is secure information. I am a member of Congress. I am simply trying to find out.

Mr. BOARDMAN. I understand absolutely. And I will make sure that——

Ms. NORTON. You will personally make sure I get the information?

Mr. BOARDMAN. Yes.

Ms. NORTON. Mr. Hamberger, I was interested in your testimony where you took on some of these issues——

Mr. HAMBERGER. I am on the next panel.

Ms. NORTON. Sorry?

Mr. HAMBERGER. I am on the next panel.

Ms. NORTON. Sorry?

Mr. HAMBERGER. I am not on this panel, I am on the next panel.

Ms. NORTON. Well, who—you are on the next panel? I will have to wait for you? All right, I will do that. I will do that.

Let me ask you, Mr. Boardman, the difficulty created by the suit from a local jurisdiction trying to take trains and reroute them surely points up an issue of national concern. I indicated to you that I certainly didn't see how people could reroute trains where tracks had been laid long ago. We, of course, have discussed liability and ways to spread the liability. That is very important. And you are taking actions, as are the railroads.

This is a very old industry, old tracks, lots of problems just to keep the tracks in working order. Rerouting always seemed to me to be an impossible solution. Perhaps some rerouting within the capital only, but that would be a one of a kind matter because it is the capital of the United States, and these trains are routed so close to the monumental core. So that certainly wasn't a solution.

Have you thought about—given the fact that this is a chess game where you cannot move the pieces, have you thought about ways, short of rerouting, to mitigate the harm? I am talking about ways like when such substances travel, for example—I don't know, you tell me. Since you are so closed in, so fenced in by the nature of the industry you regulate, the railroads themselves are fenced in because they have to carry everything, and yet are placed in this

position. I am astounded that we have not taken action of the kind we have taken to protect the nuclear industry, for example.

But short of impossible solutions like rerouting, given you have the cards you have been dealt, and considering that these trains necessarily now travel through the most densely populated areas of our Country, are there ways, short of rerouting, to mitigate the danger to these populations?

Mr. BOARDMAN. Congresswoman, we have, in the work that we have done—and I spoke a little bit about in my opening statement—the work that we have done with the couplings and the work we have done with head shields on the tank cars, on the work that we have done on our new thermal coating on the tank car itself, those kinds of things have reduced the risks to what we need to do substantially. We have also——

Ms. NORTON. Does that mean that, for example, if there were an attack on a hazardous substance car—because, you know, we have been shown these scenarios—that you think that the coating and the reinforced cars would protect——

Mr. BOARDMAN. We already know that the particular insulation coating for cars that would be on fire is working. We don't have a catastrophic failure of the car itself because of that technological change. That has already been proven, we know that. There is another coating that exists that we are testing at this point in time, that has been used in the war zone, to try to minimize the impact on the tank car itself, and we are actually looking at how railroads—on our new rule that we are working with PHMSA on—might reroute, frankly, to reduce the risks that are out there today along with what the Chairman brought up earlier, on having a 333 conference of the chemistry industry and the railroads to try to reduce the risks.

You certainly have pointed out to us today an understanding of how difficult this problem is, and we do appreciate that. We understand and value every life that is out there today, whether it is in a rural area or whether it is in an urbanized area, and we are taking every step that we can to look at how we would reduce the risk.

Ms. NORTON. Well, finally, I think that the railroads are in an inherently impossible position. I really think that the Homeland Security Committee and the research that only a national government can do can help us deal with and that the oldest transportation industry in our Country, and one which I think is far more vulnerable to attack than, for example, the industry we have fixed because it was attacked. I regard the North Dakota and South Carolina accidents as a shot across our bow, and it tells us, of course, that accidents are going to be the problem that we have to be very careful with.

But the notion, when we consider the fallout in lives and in communities from those accidents ought to make us work very closely with the Homeland Security Committee to get a national approach so that we can assure people in metropolitan areas that we are working very fast on this problem. I mean, we are working very fast on problems like Avian flu, where we can't find any birds in this Country and we can't find any way that the disease is passed on, because we want to prevent the disease. We have had these ac-

cidents. We have got to do more to speed up protection of this industry.

Thank you very much, Mr. Chairman.

Mr. LATOURETTE. I thank the gentlelady.

And Administrative Boardman and Mr. McGuire and Mr. Chipkevich, I thank you very much for your testimony. I thank you for answering our questions and, again, I apologize for the delay that occurred within the votes. But you go with our thanks.

Our Ranking Member, Ms. Brown, had a problem with her schedule and she will be joining us later, but she mentioned to me before she left that she may have a couple additional questions, and I will have her submit them, and if you could get back to us, we would appreciate it. But you go with our thanks. Thank you very much.

In our third panel this afternoon we will hear from Mr. Thomas D. Simpson, who is the Executive Director of the Railway Supply Institute; Mr. Thomas Pontolillo, who is the Director of Regulatory Affairs with the Brotherhood of Locomotive Engineers and Trainmen; Mr. Richard F. Timmons, who is the President of the American Short Line and Regional Railroad Association; and, last, Mr. Edward Hamberger, who is the President and Chief Executive Officer of the Association of American Railroads.

I want to thank all of you for coming, and we look forward to your testimony.

Mr. Simpson, we would like to hear from you first.

**TESTIMONY OF THOMAS D. SIMPSON, EXECUTIVE DIRECTOR-  
WASHINGTON, RAILWAY SUPPLY INSTITUTE; THOMAS  
PONTOLILLO, DIRECTOR OF REGULATORY AFFAIRS, BROTH-  
ERHOOD OF LOCOMOTIVE ENGINEERS; RICHARD F.  
TIMMONS, PRESIDENT, AMERICAN SHORT LINE AND RE-  
GIONAL RAILROAD ASSOCIATION; AND TRAINMEN; AND ED-  
WARD HAMBERGER, PRESIDENT AND EXECUTIVE OFFICER,  
ASSOCIATION OF AMERICAN RAILROADS**

Mr. SIMPSON. Thank you, Mr. Chairman. Good afternoon. Mr. Barrow, Ms. Norton. I am pleased to be here.

My name is Tom Simpson. I am Executive Director of the Railway Supply Institute. I am here on behalf of the RSI Committee on Tank Cars, which has represented this industry for more than 50 years. The RSI Committee on Tank Cars represents companies that manufacture virtually all the tank cars operated in North America and also own, manage, and full service lease 180,000 tank cars. We are approximately 70 percent of the Nation's tank car fleet.

In 1970, we joined with our partners at the Association of American Railroads to create the Railroad Tank Car Safety Research and Test Project. The mission of the project is to collect and analyze data received to the performance of tank cars and derailments, and to use those data to support research to improve tank car safety. The Federal Road Administrator did an excellent job of outlining the improvements we have made in tank cars over the years because of the safety project. Since 1970, RSI and AAR have invested more than \$20 million in the safety project, while car own-

ers have invested more than \$700 million in safety improvements to the tank car fleet.

These joint efforts have helped make rail the safest mode for transporting the vital raw materials our society demands. Approximately 1.7 million carloads of hazardous materials are transported by rail throughout the United States each year and 99.998 percent of these shipments reach their destination without a release caused by an accident.

The reduction in accidental releases of hazardous materials has been driven in part by continuous improvements in tank car design and materials, and the RSI Committee on Tank Cars fully supports continued efforts to improve the tank car package.

I have four specific points I would like to make this afternoon. First, an important step towards improving rail safety is for PHMSA and FRA to take a more active leadership role in the effort to improve safety. PHMSA and FRA are uniquely positioned to ensure an open, transparent, unbiased, and comprehensive process is used to create any new safety standards.

Secondly, we believe rail safety improvement efforts should be based on a comprehensive analysis of rail hazmat risks that looks at all aspects of the rail system. Safety improvement efforts should explore railroad operating practices, shipper commodity handling practices, emergency response procedures, and tank car design improvements.

Thirdly, any changes to tank car design should be driven by sound science and engineering. The recently initiated AAR Tank Car Committee dockets intended to reduce the probability of release of chlorine or anhydrous ammonia are first steps towards improvement in the safety of shipping those materials. The work of those task forces must be coordinated with the critical research FRA has undertaken at the direction of Congress on derailment forces and steels as passed in SAFETEA-LU.

The results of these studies are critically important because they provide facts about the real-world conditions in which the cars operate, and they should be completed prior to deliberation on any future car designs. We are concerned that the design specification developed as a result of the current accelerated AAR docket approach will not take this research into account and may be superseded or contradicted once this additional FRA research data is evaluated.

Fourth, initiatives to improve security of shipping hazardous materials by rail should be coordinated between DOT and DHS to ensure prioritized action items can be efficiently implemented. Funds for research and implementation of technology to reduce tank car vulnerability should be granted. As the Administrator also indicated, government and industry are currently evaluating materials that may prevent the penetration of a tank car or, alternately, to seal a commodity leak if the tank car is penetrated by a terrorist. If it is decided that such materials should be applied to tank cars, tank car designs would need to be changed to incorporate the additional weight and thickness of the material.

We are prepared to immediately work with Congress, the Federal Government, railroads, shippers, and others to ensure that the transportation of hazardous materials continues to be done safely.

I would be glad to answer any questions.



Mr. LATOURETTE. Thank you, Mr. Simpson, very much.

Mr. Pontolillo, we would like to hear from you.

Mr. PONTOLILLO. Good afternoon, Mr. Chairman, Mr. Barrow, Ms. Norton. My name is Tom Pontolillo. I am Director of Regulatory Affairs for the Brotherhood of Locomotive Engineers and Trainmen, which is a division of the Teamsters Rail Conference. And on behalf of the 33,000 BLET members and 70,000 Rail Conference members, and, really, the 175,000 men and women who serve America working for the Nation's railroads, I thank the opportunity to address the Subcommittee.

For the BLET, this hearing is personal and carries special meaning, because the three TIH accidents that we have been discussing—Minot, Macdona, and Graniteville—claimed the lives of two BLET members: Heath Pape in Macdona and, of course, Chris Seeling in Graniteville. So we continue to have an abiding interest in improving safety of all hazardous material shipments.

The reality is that our lifestyle depends upon chemicals that end up in a very benign form, but during transportation can be very hazardous, and it is all our duty in the industry to make sure that we work together to prevent future tragedies.

I want to touch briefly on five subjects that are of interest to the men and women on the ground level. One is security. Not to belabor the point—as has been mentioned by Ms. Norton and was also mentioned earlier by Mr. Simmons—the High Alert report that the Teamsters put out shows a troubling lack of effort on the part of the industry to stay on top of security affairs, and, indeed, the CDC, in January of 2005, issued a report warning that the consequences of an acute hazmat release could result in environmental damage, severe injury, or death.

Last Wednesday, as I began preparing this testimony, I heard on the radio the Akron, Ohio Beacon Journal was reporting that a 17 year old and a 16 year old had admitted derailing a train consisting of two locomotives and 103 cars by sticking ties on the tracks near Barberton, which is an Akron suburb. Fortunately, that was a coal train, it occurred in May of this year, but the consequences could have been much more serious.

On the security front, rail labor has been proud to support H.R. 2351, which was sponsored by Mr. Oberstar, and we will continue to support security legislation in the future.

The industry currently suffers from severe capacity problems. Many lines are running at or near capacity and there is an ever-increased demand for rail service, particularly in the coal fields. Productivity is up over 500 percent since 1978 and, as a result, staffing levels in the industry are lower than they have ever been before. This creates stresses on equipment, on track, and, most importantly, on the human resources that operate America's railroads.

Twelve to 16-hour days for many railroad workers are becoming commonplace and, in fact, internal data prepared by one Class I railroad concerning hours of service for train crews for the first five months of this year shows that railroad averaged over 105 crews a day that worked in excess of 15 hours—this is train and engine crews—and about three crews a day over 20 hours.

The industry's solution has been to cut back more at the bargaining table; they want to take all the shop crafts and make a composite mechanic out of, subcontract out work, and they want to take their operating crafts and reduce them to one person. And I mention that here because Railway Labor Act disputes sometimes end up on your doorstep for resolution, but there is a safety aspect to staffing.

And there is also a training aspect at this point in time because, in addition to the industry operating at or near maximum capacity, this is also the period when the beginnings of the baby boomer generation of railroaders is retiring. So there is a whole bunch of new people coming in that need to be trained. We have had serious problems with training on the part of the industry in the past. That has been no secret.

Sometimes it seems like it is driven more in the need to get people out on the property than it is to make sure they are well equipped to do the work, and hazmat rail labor has taken the burden on its own shoulders. Over the last 15 years, a program that we have at the George Meany Center in Silver Spring has trained over 20,000 railroad workers, and next month we are going to institute the first training in radioactive material transportation, and we are unaware of the railroad industry providing any of our members with this stuff. SAFETEA-LU has thought of us in helping to provide funds, and we appreciate that.

Very briefly, in accident causations, we have heard about human factors accidents. That is only one piece of the puzzle. We believe all accidents need to be studied, and beyond the primary cause. We believe there should be root cause analyses. There is now an analytical taxonomy to provide that. Positive train control will provide a help but, as NTSB said, really, it is an overlay. What we really need in the short term are switch protection and switch position detection for dark track as we start to evolve in.

And, lastly, it is important that the Subcommittee consider the fact that in the next few years the numbers and amounts of radioactive shipments, spent nuclear fuel and high level radioactive waste, will increase tremendously as storage facilities are opened, and current regulations need to be looked at thoroughly. For example, railroad workers, my understanding is, currently can be exposed to greater radiation than nuclear industry workers. That needs to be looked at along with monitoring systems.

FRA has done a study and recommended that these be dedicated trains, and we support that conclusion 100 percent. And we are participating in the DOE Transportation External Coordinating Working Group, but that is going to be the next new issue in the transportation of hazardous materials.

And having said that, I appreciate the extra time, Mr. Chairman. I would be pleased to take any questions.

Mr. LATOURETTE. I thank you, Mr. Pontolillo.

General Timmons, welcome to you, and we look forward to hearing from you.

Mr. TIMMONS. Good afternoon, Mr. Chairman, and thank you for the opportunity to talk on Class II and Class III railroad issues, and particularly the status of hazardous materials movement in the small railroad industry.

As this Committee is well aware, the short line industry operates over approximately 50,000 miles or right-of-way in 49 States, with 23,000 railroaders who move freight each day. Carloads of hazardous materials, the vast majority of these products are not toxic by inhalation, and short lines are by no means the primary mover of these commodities across the Nation's transportation system. But for the communities that we do serve, these products are essential to the health and well being of their citizens and are only available through freight rail movement.

The short line and regional record of hazmat transportation is excellent. The U.S. Department of Transportation Hazardous Materials Information System indicates, for 2004 and 2005, that no short line railroad has been responsible for any fatalities, injuries, or hospitalizations resulting from a hazardous materials release. Since 1973, FRA has recorded only one hazardous material related fatality on a short line, and that fatality involved an unauthorized rider on a freight train.

Needless to say, we take this matter very seriously and we continue to strive for improvement and reduced exposure for crews, communities, and responders. We believe our commitment to educate our personnel and maintain rigorous adherence to industry safety and technical standards has facilitated these solid statistics.

For short lines, several areas are essential to the safe and efficient movement of hazardous materials, the first of which is that the infrastructure must be sound. Rail, roadbed, bridges, and signals must be continually improved. The Federal tax credit you approved in 2004 has allowed short lines to increase investment, which is improving our track structure and enhancing our network. As I have discussed with this Committee in the past, the tax credit is accomplishing exactly what was intended, and we hope that Congress will see fit to extend it before it expires at the end of next year.

Second, car availability is critical. Much of the current equipment is aging quickly. Reliable and robust hazmat cars must be up to the challenges of long and hard service and be reliable under all circumstances..

Third, tracking hazmat shipments is essential in the event man-made or natural disasters threaten to expose the contents of these cars to emergency responders or unwary citizens. A recently introduced computer tracking system now gives the short line industry the ability to track and report shipments by commodity, by railroad, and location in real-time to computer terminals in the FRA, AAR, and the Short Line Association offices. This is an area of weakness for us in the past, and we have devoted considerable time and effort to addressing this need. The new system, known as FreightScope, gives us the ability to provide on-demand information very similar to Class I operations.

Fourth, security must be a part of every day operations and procedures in a more comprehensive way than ever before. Reporting, tracking, communications, rapid response, and preparation for a terrorist strike or accident must be part of what we do and train for each day. Short lines have worked steadily since 9/11 to prepare for the unexpected. I will not repeat here, but have listed in my

written statement, nine activities that the Association and its members have engaged in since 9/11.

Certainly, there is much more that can and should be done, and I know determining the next steps are part of what is driving this hearing today. The short line railroads stand ready to work with the Congress and the industry to take whatever next steps are deemed appropriate and necessary. And at the appropriate time I would be happy to answer any questions from the Committee members.

Thank you very much, sir.

Mr. LATOURETTE. Thank you very much.

And the last witness on this panel is Mr. Ed Hamberger. Mr. Hamberger, thank you for coming to see us, and we look forward to hearing from you.

Mr. HAMBERGER. Mr. Chairman, thank you once again for the opportunity to appear before this Subcommittee. And on behalf of the AAR, I appreciate the opportunity to discuss rail transportation of hazardous materials.

At the last hearing, which seems like just yesterday, you observed that I have a tendency to say that I have five messages. Today, Mr. Chairman, I have two, two messages. The first is that the railroads take very seriously their responsibility to transport safely and securely the hazardous materials entrusted into our care. We have an excellent record in that regard. Nonetheless, accidents do happen, and part of the first message is extending to the family, friends, and victims of the accidents that have occurred our regret and sympathy.

The second message is that the current environment for the rail transportation of highly hazardous materials, especially the so-called toxic-by-inhalation hazards (TIH) is untenable. Or, as Congresswoman Norton so eloquently put it just a few minutes ago, inherently impossible. The Federal Government requires railroads to transport these shipments whether they want to or not.

As Wick Moorman, Chairman of the AAR Board of Directors and CEO of Norfolk Southern Corporation, points out in a statement filed with this Committee, railroads do not make these highly hazardous materials, railroads do not use these highly hazardous materials, and railroads do not make enough money transporting these materials to justify the risk they take. Yet, unlike other companies, even other transportation companies, railroads cannot just say no to these materials.

And I take respectful difference with your opening statement, Mr. Chairman, when you said we all benefit when railroads transport these materials. I respectfully suggest to you that railroads do not benefit from the current legal framework governing these shipments. Every time a railroad moves one of these shipments, it faces potentially ruinous liability.

As Mr. Beardsley, of Aon, will testify—at least my interpretation of his testimony—the next tragic accident could well spell the end of insurance availability, not just cost, but availability, for the railroads to move these materials. And, of course, this would have a collateral impact on our ability to move every carload, not just chemicals.

Railroads face these huge risks for a tiny fraction of their business. Shipments of TIH, for example, constitute only 0.3 percent of all rail carloads. Still, history demonstrates that railroads can suffer enormously costly judgments even for accidents where no one gets hurt and railroads do nothing wrong. If this risk is not limited, railroads will be forced to seek an elimination of their government mandate to carry highly hazardous materials or to challenge its applicability with regard to TIH and other highly hazardous materials.

If the Federal Government is going to continue to require railroads to transport these materials, it must address the company risk it forces railroads to assume. Congress can do this in at least two ways. One is to create a statutory liability cap for the railroads similar to the one that applies to Amtrak, which I believe is \$200 million per incident.

Or, two, Congress could also enact a Price-Anderson-like solution which limits the liability of a company from an incident involving the release of nuclear material and provide for a fund to cover any damages in excess of that amount. Thus, precedent does exist where public policy needs demand spreading the risk. And I would emphasize that in both of these proposals railroads would have "skin in the game."

In the meantime, railroads continue to support prompt, bold action by all stakeholders to further reduce the risks associated with the manufacture, transport, and use of highly hazardous materials. I suggest a number of actions in my statement. Let me just emphasize several here.

One, and as is exemplified by the presence of Chief Bell on the next panel, one of our highest priorities is to provide emergency response information and training to the emergency responders in the community in which we operate. It is my understanding that Chief Bell and his colleagues responded valorously and admirably during the accident in Graniteville last year. We train 20,000 emergency responders each year, both on our own and in cooperation with the American Chemistry Council.

Two, we have a very rigorous training program, notwithstanding what others may believe. And I would like to submit for the record, Mr. Chairman, the hazardous materials training delivered at the Norfolk Southern Training Center in Macdonia, Georgia, to every employee of Norfolk Southern. It is similar to an example of what each of our Class I railroads does around the Country.

Number three, we have talked and you have seen the new technologies we are deploying trackside to try to have better predictive maintenance to eliminate an accident before it happens.

Number four, we are moving aggressively as an industry into train control technology, which would have, again, predictive enforcement: stopping a train before it exceeds its authority.

And, five, another action that would result in tremendous long-term safety gains, is rail industry effort to significantly improve tank car safety. Our Tank Car Committee is evaluating a new standard for both chlorine and anhydrous ammonia tank cars. Based on research from the University of Illinois, we believe that the probability of a release, if there is an accident, could substantially be reduced. The Committee is also examining whether the

phase-out of tank cars constructed of non-normalized steel should be accelerated.

And that was number five, but I do have one more, Mr. Chairman, number six, and that is to accelerate the development and use of inherently safer technologies as substitutes for highly hazardous materials. As noted in a just released report by the National Research Council, "The most desirable solution to preventing chemical releases is to reduce or eliminate the hazard where possible."

Likewise, in January, the Government Accountability Office recommended that the Department of Homeland Security "work with EPA to study the advantages and disadvantages of substituting safer chemicals and processes at some chemical facilities." Railroads agree and strongly support efforts aimed at finding and utilizing product substitutes or inherently safer technologies for hazardous materials, especially TIH.

In closing, Mr. Chairman, we cannot continue to transport highly hazardous material under the conditions that currently exist. The inordinately high risks now shouldered by the railroads must be dramatically reduced both through improved safety and the provision of reasonable liability protection. All participants in the hazmat logistical chain, working together and working with appropriate government agencies, must accept responsibility to take a comprehensive, holistic approach to hazmat safety.

If railroad risks are not reduced, Congress should relieve railroads of their mandate to carry TIH and other highly hazardous substances. We should be permitted to decide for ourselves whether to accept, and at what price to accept, such materials for transportation.

Thank you for the opportunity to testify on this critical topic, and I apologize for running long.

Mr. LATOURETTE. I thank you, Mr. Hamberger. And without objection, your materials will be made part of the record. And just so you know that I am paying attention, you had six points, but you tried to confuse us by saying you only had two, and you made the six subparts of the second point.

Mr. HAMBERGER. I should have known better, sir.

Mr. LATOURETTE. And let me start with you. Obviously, from your testimony and observation, that if the transportation of these materials was voluntary, it really wouldn't make a lot of business sense for the railroads to engage in that. But if it is the position of the railroads that the shipping rates for hauling chlorine, for example, don't really reflect the liability exposure, why don't the railroads just raise the rates for shipping?

Mr. HAMBERGER. Well, that would be one approach, but when there are uncapped liabilities, you can't charge enough. That is to say, the insurance—and I think what we will hear from the representative from Aon is that there is a limit on liability insurance that can be achieved—not only here, but through the reinsurance markets in London—and the overall damages that could be assessed could far exceed that cap, and we are talking about 100,000 shipments a year. You just can't charge that much.

Mr. LATOURETTE. Let me ask it a different way. I think I talked to the Administrator about coercion. And I am not a chemistry

guy—that is why I went into politics—but it is my understanding that if you, rather than using chlorine gas at a water treatment plant, for instance, you could use something called sodium hypochloride. If the railroads took the position that they were going to charge as much—a lot more for hauling chlorine gas, don't you think that there would be some adjustments in behavior, and perhaps we would see safer materials being shipped to water plants, as opposed to chlorine gas?

Mr. HAMBERGER. As I know you will understand and appreciate, we do not talk about rates at the AAR. So I can't really address that directly, other than to say no matter what the cost is, you know, we are concerned that you could not charge enough to cover an unlimited liability.

Mr. LATOURETTE. Let me ask you this, because you used the "skin in the game" reference, and Mr. Durbin is going to be on the next panel and it has already been brought up in some of the questions. The argument is being made that if railroads are absolved or their liability or their exposure is reduced, that would be a disincentive to safety, that they would have no incentive to carry these materials safely. Do you have a response to that?

Mr. HAMBERGER. Well, I think on several levels. Number one, it is good business to travel—to do things safely, and so that is why we are focused on safety, we are focused on the safety of our employees, the communities in which we operate. So I don't believe there would be any diminution in emphasis on safety. Number two, the proposal in the testimony does not absolve all liability, so there would be "skin in the game."

I guess I will take this opportunity to express my surprise at testimony from the American Chemistry Council, where they actually oppose any limitation on liability because they believe it would act as a disincentive for railroads to act safely, while at the same time the American Chemistry Council is a founding member of the American Tort Reform Association, whose Web site talks about how tort liability is not a driver for corporate responsibility.

We also have members of that ATRA, and we also believe that tort liability is not a driver of corporate responsibility for safety and security, and, actually, we believe it about them too. It would be nice if they believed it about us.

Mr. LATOURETTE. Thank you.

Mr. Pontolillo, we were talking about the Graniteville accident a little earlier and the observation from the National Transportation Safety Board relative to breathing equipment. Does your organization have an opinion or view as to whether or not additional safety equipment should be placed in the locomotive?

Mr. PONTOLILLO. We can see a value to it, but, I think as Administrator Boardman said this morning, it brings with it a bunch of subissues as to type, and you need to make sure that there is testing and inspection and stuff. We do, but we believe that that is just one part of an overall picture, because while that provides protection for the crew, it provides precious little for the community at large. So we do favor that, but within the context of a much broader approach designed to reduce accidents and, when there are accidents, to reduce breaches in the tanks.

Mr. LATOURETTE. Thank you.

Mr. Simpson, how much does a tank car cost, roughly, and how long does it last when it is in service?

Mr. SIMPSON. Well, like Mr. Hamberger, we don't talk prices, but I can provide a—for the record, I can survey my membership and give you a range of prices. The life of a tank car is approximately 40 years.

Mr. LATOURETTE. Forty years? And you talked a little bit, and I know some of this you can't talk about as well, but you talked about the self-sealing technology. I always think of it sort of like Bars-leak for your radiator, I think. Without going into the specifics, well, can you be as specific as possible and tell us a little bit about that technology?

Mr. SIMPSON. We are working with DHS and the railroads and shippers to identify and look at materials that could be applied to the side of tank cars that would either absorb a rifle shot or repel a rifle shot. They are currently polyurethane type products. There was a story in USA Today last week about truck liners, truck bed liners that are being used, and this kind of material has been used in Iraq on Humvees, and we are looking to see if it is applicable to use on tank cars.

Mr. LATOURETTE. OK. I know that when the District of Columbia was looking at having their ban on hazardous materials on the CSX lines through the District, a well-meaning councilwoman came in to meet with me and brought a picture of a tank car on a bridge that we could probably see if we walked out the front door. Is this technology designed to deal with that type of terrorist exposure? That is what you are hoping to get at?

Mr. SIMPSON. We are hoping for either a deflection or an absorption.

Mr. LATOURETTE. OK. Thank you very much.

Mr. Barrow.

Mr. BARROW. Thank you, Mr. Chairman.

Mr. Hamberger, I certainly agree and understand the predicament that the industry is in. The level of risk is unbelievably high, and we are just one incident away from railroads having basically to bet the company every time they roll down the track, and I understand we have got to address that in some way or another. But it does seem to me that if the risk is that high and that great of continuing to do things the way we are doing them now, it just makes it that much more important that we try to minimize the risk in every way we can.

Mr. HAMBERGER. Yes, sir.

Mr. BARROW. So I would like for you to weigh in with me a little bit on the subject of car placement. And I think it is helpful to review the facts of the Graniteville incident just to put this in context.

As I understand it, there were forty-something cars in that train consist. The three or so cars that had hazardous material were in the front fourth, cars like six through nine, something like that.

Mr. HAMBERGER. Nine through eleven, I think, but yes.

Mr. BARROW. The last one of those was the only one to have suffered a puncture. And as was explained earlier on, it was among the toughest that are currently in use.



Now, if Norfolk Southern, in that incident, had been following the practice that had been recommended by the FRA way back in 1992, the policy that is still urged and recommended by the NTSB today, all other things being equal—exactly the same human error, exactly the same outcome, exactly the same collision, exactly the same forces—but if those cars had been in the back third of the train, anywhere in the back half of the train, there would have been no puncture at all, because the last train to actually come off the rails at all was like 12 or 13; and they were off the rails, but they were standing up and weren't hurt at all.

So all of the damage of this track speed collision with a standing locomotive on a side track, all of this was absorbed in the crumple zone of the front end of the train. And if we just had those cars toward the rear, just in the back half of the train, nobody would have died; and we had nine people who died just about as ghastly a death as you possibly can. And, of course, if it had happened not just over the line in Mr. Gresham Barrett's district, in his rural area, but downtown Augusta, in my district, it would have been untold numbers of people dying the most ghastly death that you can imagine.

So my question is the railroads are following a policy, whether it is dictated by Federal regulation or not. It is either a policy of random placement—put them where you get them, where you can—or it is a policy of deliberate placement. One concern I have got is that the Federal Government is understood to weigh in and basically say random is best. That will immunize you all from any liability from following this Federal mandate of random, as opposed to deliberate.

But if we do what most folks, put the baby in the back seat of the car because it is safer than putting the baby in the front seat of the car, if we do what most folks agree is the right thing to do, and if the claims of—if the practice of random isn't preempted from State tort liability, railroads are running an incredible risk of having someone say in a jury case someday, if it has been litigated to a fair thee well that this claim isn't preempted, that they are going to have to pay a huge liability, when it could have been avoided if they had adopted the smarter policy.

Wouldn't it help the railroads if the Government were to be the bad guy in this picture and come in and mandate the best standard, the best management practice, to mandate a policy of deliberate placement, one that you can work with, one that your members can actually handle and deal with, but impose the cost uniformly so no railroad is going to be working at a competitive disadvantage compared to others by incurring the extra expense, the marginal cost of stepping out and going front with a policy of deliberate placement? Wouldn't it be best for everybody if the Government does what sometimes only the Government can do, and that is be the heavy in the picture and make everybody do the right thing at the same time?

Mr. HAMBERGER. Let me try to respond as best I can. Number one, I do not believe that the word "random" was quite right. That is to say, there are rules and regulations, and one of the modules from this Norfolk Southern training is switching and train placement charts. That is to say, certain materials are not supposed to

be placed next to each other depending on their volatility, and certain kinds of carloads are not supposed to be next to tank cars. So it is not an entirely random——

Mr. BARROW. So already a standard of care is being set?

Mr. HAMBERGER. There are already standards of care being set. I did discuss this, and I would ask your permission to give you a more detailed submission for the record, but as I understand it, there is also some concern with the railroads on train dynamics, that is to say, where some of these cars are placed based on their weight in relationship to other cars in the train.

And then, third, I don't know how often this happens, but it does strike me, sitting here, thinking about it, that if the car is near the end of the train and the impact comes from that end, you have the reverse situation.

Mr. BARROW. There is no question that a policy of deliberate placement creates a risk profile to replace an existing one.

Mr. HAMBERGER. Right.

Mr. BARROW. The question is one better than the other. And all I would offer to you is that the industry already recognizes some element of responsibility and sets a standard of care when you try and keep bad things apart from each other.

Mr. HAMBERGER. Yes, sir.

Mr. BARROW. But if you are not also applying the same logic toward where you are putting them on the train someday, either that policy is preempted by Federal law because we are putting our blessing on it, in which case folks are going to be hurt as a result of preventable injuries if the policy of deliberate placement actually makes more sense in more cases. And to apply that logic that there are some risks that you actually would create gets back to the seat-belt scenario; some folks are hurt by seatbelts, but far more lives are saved by requiring everybody to do the thing that is best for all concerned, it is that is the price you have got to pay in order to save more lives.

Mr. HAMBERGER. I have probably said more than I know on this already, so if I can respond in more detail for you.

Mr. BARROW. Well, understand this. I am trying to help you all.

Mr. HAMBERGER. I understand that.

Mr. BARROW. Where you all will minimize the risk, because, like I said, if these claims aren't preempted, you all are already staring down the barrel of that gun. You have kind of aimed it at yourself by recognizing the placement is an area of risk generation that you create for the bystanders.

Mr. HAMBERGER. Yes, sir.

Mr. BARROW. Thank you.

Mr. LATOURETTE. Thank you, Mr. Barrow.

Ms. Johnson?

Ms. JOHNSON. Thank you very much, Mr. Chairman. I ask unanimous consent to submit my remarks and also to submit my questions. I had a couple of questions for Mr. Chipkevich, and I am sure I didn't get back right away. So I will submit those, if you don't mind.

Mr. LATOURETTE. Perfect. Ms. Brown also had some questions that she wanted to ask of the panel. So just get them to us and we will ship them along. Thank you.

Are there any questions you want to ask this panel, Ms. Johnson?

Ms. JOHNSON. No, thank you.

Mr. LATOURETTE. OK.

Ms. Norton.

Ms. NORTON. Thank you, Mr. Chairman.

Mr. Hamberger, I knew I would get to you soon.

Before I do, let me ask a question, though, based on your testimony, of Mr. Pontolillo. The railroads have this legendary history: it is not I live near the railroad, it is working on the railroad. And if you are a connoisseur of American literature, I suppose as much has been written about working on the railroad as has been written about being a cowboy.

Well, today we recognize that working on a railroad is to take your life in your hands, and we are all sitting here trying to problem-solve, recognizing this to be a vital industry. I don't even think—there was testimony earlier that I don't know if Mr. Hamberger was going to say, well, we are going to seek not to be a common carrier anymore, well, you know, he knows that is not going to happen. So we really have to just grapple with this really difficult problem.

I want to look at South Dakota and South Carolina for a moment. Our good colleague testified about somebody on the front porch. Of those who were killed or injured, how many of them or what percentage of them were workers, as opposed to passengers or others in the community? Do you have any figures on that?

Mr. PONTOLILLO. I don't have it off the top of my head, Congresswoman. In Minot, I am not sure any of the casualties, perhaps one was a railroad worker. In Macdona I do know that I believe there were three fatalities, one was a BLET member and I believe a couple of the other crew members were injured, although not fatally. And I think in South Carolina, well, obviously Chris Seeling, one out of the nine fatalities was a railroad worker, the other eight were residents of the community. And Mr. Seeling's train crew was injured in that as well.

Ms. NORTON. Are these fumes, the toxic fume issue?

Mr. PONTOLILLO. Yes. And there may have been some traumatic injuries, I am not certain.

Ms. NORTON. The fume issue is a huge, huge issue. Of course, workers have some protection. I didn't know, frankly, until preparing for this hearing that workers could work 12 hours a day, but now you say they work more, 16, 20 hours a day. You know, as an enforcement agency, I just wanted to ask you a word about, you know, if a worker is in fact working that far—first of all, you are already working more than most members of Congress. So if you are working even beyond that, is there a system for the FAA or FAR, or somebody, to simply deal with that issue, either through enforcement or some other remedy?

Mr. PONTOLILLO. What has caused this particular problem for the train and engine crews—and you are right, Congresswoman, there is a 12-hour limitation for their working. In 1996 the Supreme Court decided that the time when you stop your train because your 12 hours is up, if you don't reach your final terminal, whatever period of time it takes to transport you—you are not

working at that point, but whatever time it takes to transport you from there to where you finally get released is not counted as on-duty time.

Ms. NORTON. So are you working, though?

Mr. PONTOLILLO. You have a responsibility and an obligation—if, for example, the train begins to move and you are sitting on it, waiting for transportation, you have a responsibility to take action to stop the train. You are not—you won't be required to perform any duties; you will sit there and wait for transportation.

In an ideal situation, you may only have to wait 15 minutes or a half hour, but it is becoming increasingly common that crews have to wait three, four, five, and six hours for that transportation, and then have to be—once they finally get to their resting place, be prepared to work again in as little as eight or ten hours.

Ms. NORTON. So this is a question of just being transported. Then has this problem always been with us?

Mr. PONTOLILLO. Since 1996, since the Supreme Court decision. But in the last several years it has gotten significantly worse for two reasons. Number one, as I mentioned during my testimony, the system itself is running at capacity, and running at capacity, it sort of—there have been shortages of crews in many places. And there are times when a train will sit sometimes with a crew on it, but sometimes on unattended, eight, ten, twelve hours waiting for another crew to have rest under the Hours of Service Act to be able to come out and move it. It is something that has gotten worse as time has gone on.

Ms. NORTON. Something really has to be figured out here. And I don't know what the answer is, but I am worried about the next ride that crew gets on, that is kind of sitting around, getting tired——

Mr. PONTOLILLO. So are we.

Ms. NORTON.—without the usual kind of R&R. And an already hazardous situation doesn't help things. I do see the problem. I do see that like the problem the industry is in in the first place.

All right, Mr. Hamberger, it is your time. Look, I sit on the Aviation Subcommittee, and I think that was easy compared to what this industry has to deal with. I mean, you know, we just spend a lot of money, deal with it on the ground, and we think we have fortified the industry. Of course, there was an attack first, and I would like to prevent that. I take your point, or the point of someone, about collateral, the collateral effect. Let us not call it damage. I take it that the Amtrak passenger trains are often on the same tracks, use the same tracks as, for example, CSX and other——

Mr. HAMBERGER. That is correct, yes.

Ms. NORTON. I appreciated the problem-solving nature of your testimony. I am going to ask you a couple questions about that. At page 19 you began a discussion about what government should not do.

Mr. HAMBERGER. Yes, ma'am.

Ms. NORTON. And you have also discussed what government should do. Now, I have already said I understand the problem of rerouting. One of the things that has been suggested is this notion of pre-notification. I take your point that a train moves and the notion of saying to everybody, we are coming, we are coming, and we

have got hazmat on board probably is, as you say in your testimony, difficult to implement.

Sitting on the Homeland Security Committee, I now see the way in which whole regions are working together, for example, this region, you know, Maryland, Virginia, through which these trains go, sit at the same table all the time, even receive money together, which is then distributed among them.

Would it not be possible, particularly if you didn't have to design it, for notification within a region to come, and then it is on the region to notify everybody else? We now have given them all kinds of homeland security equipment that nobody had before 9/11. But if nobody even knows, nobody, even the larger New York area or Chicago area or national capital region even knows that such trains are coming, then, of course, the whole question of notification becomes troubling to people in that region. That kind of point notification with responsibility elsewhere, wouldn't that be possible to use and help perhaps mitigate at least the concern in metropolitan regions which now can do nothing about the fact that we have to transport these materials with a common carrier? Wouldn't that mitigate the concern?

Mr. HAMBERGER. Well, I think what we do try to do, and through our rules internally, we do work with each community in which we operate and let the emergency responders know what material is going to be coming through that community.

Ms. NORTON. You said pre-notification—

Mr. HAMBERGER. You know, not by train, but we will sit down with the chief of police or the chief of the fire department, Chief Bell, and say here is the kind of material, here are the top 25 toxic materials, hazardous materials that are coming through your community; here is how we believe the emergency response should be handled for each one of those. We will help train the emergency responders.

And we have found—and as I have in my testimony from some of the emergency responders—that getting notified every time a train comes through sort of gets lost and it is a blizzard of paperwork. So the idea is preparation, training, and then immediate notification through the Freightscope project that—

Ms. NORTON. So you think they come through so often that even regional notification or notification that today we are transmitting certain kinds of materials would not be beneficial?

Mr. HAMBERGER. That is our opinion, yes.

Ms. NORTON. Let me ask you about your notions about liability, because I found them interesting, because you don't say that the railroads should not be liable or they should be capped and then you are on your own. You indicate that there should be a cap for common carriers who, after all, have no choice but to carry these substances, but that over and above the cap, in one idea, the government would pay in excess and in another the industry would contribute to a fund.

Now, since you are virtually a monopoly of this, you are the only folks who can carry this, in effect. What I don't understand is why some notion of a cap with government accepting the responsibility, there are going to be people, as you indicate, that are going to be so seriously injured that you can't possibly charge enough so that

you would be able to take care of all the liability. Would you or anybody else ever proposed either of these ideas to this Committee or anybody else?

Mr. HAMBERGER. No, ma'am, we have not. This testimony was very seriously considered by the Association, was cleared with our board of directors, and I think individual companies have broached these topics, but as an association, this is the first time we are proposing either a cap in liability or a release from the governmental mandate that we haul this material.

Ms. NORTON. Let me ask you about insurance. In your testimony I was caught off guard, I must say, by a phrase: and hopefully more insurance companies would once again be willing to offer railroads coverage. What does that mean, that you can't get coverage?

Mr. HAMBERGER. Number one, I am impressed and honored that you actually read the testimony, thank you very much, because it was rather long. And I would really refer and defer to Mr. Beardsley from Aon, but it is my understanding that the number of insurance companies who are willing to come forward and offer coverage is dwindling to just less than a handful, and that his testimony indicates that if there is another accident, that that may dwindle even further.

Ms. NORTON. Was there a fall-off of insurers after South Dakota and South Carolina?

Mr. HAMBERGER. Yes, ma'am. And, in fact, there was some concern among some of our members that the availability would not be there, notwithstanding the cost. The cost has gone up depending on the company. I have heard 30, 40 50 percent. The retention level has been increased and there is a cap even, as I say, in the reinsurance market.

And to Mr. Barrow's point, if the Graniteville accident had occurred in another location, or had it occurred at 10:00 in the morning and not 2:39 in the morning, when the textile factory that was there was not fully staffed or the elementary school a few blocks away was fortunately not in session, had that not been the case, I believe that the cap and liability would certainly have been approached, if not breached.

Ms. NORTON. Well, you can't move without some insurance.

Mr. Chairman, that may be the most serious problem. We can't afford a Katrina-like situation where there are people who will not be able to move back because no insurer, given the fact that they now think that Louisiana is prone to these issues and that it is going to be hard to protect, so there are places where no insurer would go. Well, you know, the difference there, of course, is, as heartbreaking as it is, not everybody has to live in New Orleans or in that Louisiana area; whereas, these substances have to go, which leads me to my final question.

You indicated something that interested me in my role on the Homeland Security Committee, and that is about research for substitutes for some of these materials. But, Mr. Hamberger, we are talking about some of the most commonly used materials in the United States. I mean, one of the reasons people think that there is an increase in incidents of cancer is just plain chemicals. Now, you know, many of these chemicals really start in their primary state as some of these chemicals.

And by the way, as much as we are doing something about cancer, nobody says that, you know, the chemical that is in your clothes or in this desk we are going to do away with. We simply are finding cures for cancer and trying to do as much as we can about our environment.

But when you look at what would happen if, for example, a car blew up or there was an accident, or it was attacked, we are talking about chemicals that once you get them together is where the issue is. We are talking about things like chlorine and ammonia. We are not just talking about the rarified ones that we are most afraid of, we are talking about hydrochloric and sulfuric acid. We are talking about the kind of chemicals that we all learned about when we took chemistry in junior high school and where, in a real sense, it is unimaginable that somehow or the other, as visionary as I like to be, that somehow we would live in a world in which some mixture of these chemicals were no longer necessary or no longer had to be transported.

What do you have in mind? Could you elaborate, finally, on what you have in mind that would eliminate at least these most common ones, or are you only talking about the newer ones that we are most afraid of?

Mr. HAMBERGER. No. And let me just emphasize that our effort to try to encourage product substitution is not meant in any way was an attack on the chemical industry. They are a very important part of our customer base, and we appreciate their——

Ms. NORTON. No, you see, they would probably make the substitutes as well, Mr. Hamberger.

Mr. HAMBERGER. Good point.

And so the example that I am just familiar with here is the Blue Plains Wastewater Treatment Plant, which used to get, I believe, a tank car full of liquid chlorine once a week and now gets several truckloads of what I call a chlorine bleach—I am not sure what the official chemical is, but it is a chlorine bleach—that provides the purification needed at Blue Plains.

But there is no fantasy here, this will not be a perfect substitution, but we are talking about 100,000 carloads. If, with research and incentives, some of those carloads can be replaced with chlorine bleach to purify a water supply, you know, our view is that that makes sense, and it will just reduce the scope of the exposure for the communities and the employees. So if you can get 20,000 replaced by chlorine bleach, you now have 80,000 carloads moving.

The other big piece is anhydrous ammonia, which is used for fertilizer. And I know that that is critically important. It is the most, I am told, effective fertilizer out there. There are substitutes, but they are not quite as effective. And as we are trying to grow more corn to make more ethanol—which we are proud to haul as well—you know, the need and demand for fertilizer is there.

But I guess our thought is—and not our thought so much as the National Research Council and General Accountability Office say—let us spend some time and resources taking a look and doing the research, because that is the long-term solution. That is the way to figure out how to minimize the liability and the exposure for the communities.

Ms. NORTON. Thank you, Mr. Chairman.

Mr. LATOURETTE. Thank you very much.

And to this panel, I want to thank you very much for your testimony and thank you for answering our questions. You go with our thanks.

Our next panel consists of Mr. Martin Durbin, Managing Director of Federal Affairs, American Chemistry Council; Mr. Steven Bell, Battalion Chief of the Augusta Fire Department in Graniteville; Mr. Lawrence M. Mann, representing the American Trial Lawyers Association; Mr. James R. Beardsley, who is the Managing Director of the National Rail Transportation Practice Aon Risk Services, Inc. Mr. Beardsley is accompanied by Ms. Deborah Bates, who is Vice President and Complex Casualty Broker, also of the same company.

Thank you all very much for coming. We look forward to hearing from you.

Mr. Durbin, you are first.

**TESTIMONY OF MARTIN DURBIN, MANAGING DIRECTOR, FEDERAL AFFAIRS, AMERICAN CHEMISTRY COUNCIL; STEVEN BELL, BATTALION CHIEF, AUGUSTA FIRE DEPARTMENT; LAWRENCE M. MANN, AMERICAN TRIAL LAWYERS ASSOCIATION; JAMES R. BEARDSLEY, MANAGING DIRECTOR, NATIONAL RAIL TRANSPORTATION PRACTICE AON RISK SERVICES, INC., ACCOMPANIED BY: DEBORAH BATES, VICE PRESIDENT AND COMPLEX CASUALTY BROKER, NATIONAL RAIL TRANSPORTATION PRACTICE AON RISK SERVICES, INC.**

Mr. DURBIN. Thank you, Mr. Chairman, Congressman Barrow. Again, I am here on behalf of the American Chemistry Council, a trade association representing America's leading chemical companies. Today, I am here to deliver one message: Safety is the starting point and the finish line. That is where we begin and where we want to wind up in our manufacturing operations, our transportation system, and throughout our entire value chain.

Materials transportation safety, that is the avoidance of accidents and accidental releases of hazardous materials, is the primary focus for ACC, our member companies, our transportation partners, and the emergency responders with whom we work every day.

Through ACC's Responsible Care initiative, our member companies and our partners are committed to continuous safety improvement in every aspect of the value chain.

We have a strong and successful partnership with our rail carriers, the government, and emergency response community. For example, in the 1980's, ACC members, together with the railroads and other stakeholders, developed TRANSCAER, a voluntary national outreach effort that helps communities prepare for and respond to possible hazardous material transportation incidents.

ACC and its partners have invested billions of dollars in training, systems, technology and tank car safety and we will continue to do in the future. Together, we have learned that hazardous material safety is the result of many interrelated factors, including overall safety of rail operations, track conditions and rail infrastructure, placement of tank cars in their coupling to other cars, training supervision and staffing of train crews, inspections of



equipment, use of appropriate cars for specific hazardous materials, and of course, the design and construction of the tank cars.

In short, we and our partners know hazardous materials safety is a holistic process. Today, we are concerned that the partnership is being compromised by some of our partners, and believe their proposals are driving us down the wrong track regarding hazardous materials transportation safety.

Among our concerns is the rush to require new car designs without waiting for the technical study of car performance now underway at DOT's Volpe Center. We are also troubled by efforts to alter the basic liability rules that govern hazardous materials transportation.

The hazardous materials transportation safety issue is before us for many reasons, but one crucial reason is that the product supplied by the business of chemistry and including these hazardous materials are essential in virtually every sector of our lives. We have a \$550 billion industry that employs more than one million people in all 50 States. It accounts for 10 percent of all U.S. merchandise exports. In fact, more than 96 percent of all manufactured goods are directly touched by chemistry.

Congress wisely established a national science-based hazardous material transportation system administered by DOT. That system ensured that chemicals and other hazardous materials are delivered safely and reliably. The system's goal is not to prevent their movement.

We are concerned, however, by testimony from rail labor unions regarding training and staffing deficiencies. Proposals to permit one-person train crews should not be considered until proven technology solutions are in place to allow for safe operations with a single crew member.

Why is this so crucial? The FRA reported last year the train accident rate has not shown substantive improvement in recent years, and that the great majority of train accidents are caused by track and human factors. Human factor accidents are growing in number. Now, we are aware and are encouraged by reports of recent improvements in rail safety performance, but believe that more can and should be done.

Let me briefly address the issue of liability that has been raised today. Again, we believe that the cost of liability is the result of safety performance. If safety improves and accident rates fall, liability will diminish. The legal system appropriately places liability on the party or parties that are responsible for an incident. The removal or reduction of liability could have unforeseen or undesirable consequences, including a further erosion of safety performance.

Regarding the common carrier obligation, I believe Congress recognized it as the framework on which the entire national rail transportation system was founded, and that it remains crucial today.

Finally, I want to address emergency response. For 35 years, ACC's CHEMTREC program has shared expertise with emergency responders. When an incident takes place, responders contact CHEMTREC's state of the art, 24/7 emergency center to determine the best way to handle a wide range of hazardous substances. I want to personally invite the members of this subcommittee and

their staff to tour our CHEMTREC emergency center in Rosslyn, to see how we work with local responders to help protect your communities.

ACC would also like to work with the subcommittee to help emergency responders nationwide receive the CHEMTREC and TRANSCAER materials and training opportunities that are available.

The Nation needs a safe and reliable system of hazardous material transportation governed by uniform national rules. That is the system we have today and the challenge, for both the private and public sectors, is to ensure that this system continuously improves.

We look forward to working closely with the subcommittee, with the Congress, Department of Transportation, and all of our transportation partners to make that happen.

Thank you, and I will be glad to answer questions.

Mr. LATOURETTE. Mr. Durbin, I thank you very much. I will take you up on your offer, and I think I will have the staff get in touch with you. I know I would like to come to Rosslyn and I am sure that other members of the Subcommittee would as well. I look forward to that.

To introduce our next witness, Chief Bell, I yield to Mr. Barrow for just a moment.

Mr. BARROW. Thank you, Mr. Chairman.

Our next witness is someone we really ought to listen very closely to because he is the only person here today who speaks for the first responder community. In fact, he was in charge of the first responder community that responded to the Graniteville incident, the worst of the ones we have heard about today.

So Mr. Chairman, it is my pleasure to introduce Mr. Steven Bell. He is the Battalion Chief, the fellow at the Augusta Richmond County Fire Department, the fellow who is in charge of the hazmat team that responded to the Graniteville incident.

Chief Bell, thank you for being with us today.

Mr. BELL. Good afternoon. My name is Steven Bell. I am a Battalion Chief with the Augusta Fire Department.

I would like to start off and thank Chairman Steve LaTourette and Ranking Member Corrine Brown for holding this very important meeting. I also want to thank you, Congressman John Barrow, for inviting me to testify here.

Let me give you a little history. For the past 31 years, I have been a firefighter/first responder. My tenure began in the 1970's as a firefighter, but it wasn't until about the mid-1980's that we began to realize that there was a need for a specialized team of firefighters that would be needed to handle any type of transportation of industrial accident there in the Augusta area.

Prior to the 1980's, the only thing that we worried about in the line of hazardous materials was gasoline, natural gas and propane. That was it. The tools we had to deal with that were water, foam, hand-held fire extinguishers, and a handful of these rubber gasline plugs for natural gas.

In 1985, a group of firefighters decided it was time to begin the uphill battle to form our first hazmat team. Any equipment that we got was obtained by way of donations from the local industry. But today, our hazmat teams consists of 23 members who are trained

to technician level. We also have two custom-built hazmat units, level A, B, and C suits. We have patch kits and other specialized equipment.

On January 6, 2005, our training and equipment were put to the test when a freight train carrying chemicals hit a parked train near the Avondale Mills in Graniteville, South Carolina. The impact caused poisonous chlorine gas to leak from the ninth car of the train that was moving. More than 5,000 people were evacuated from the site and 9 were killed.

I was on duty the morning that the Graniteville accident occurred. The GVW, which is the abbreviation for Graniteville-Vaucluse-Warrenville Fire Department, initially responded to this accident. After their initial response, we were requested to send our hazmat team to assist in the incident. Initially, our 9-1-1 dispatcher contacted me in my office and gave me the information that she had. However, the information was still not clear. Our first step after that is we got the team together there in my office and we tried to assemble some information and obtain more information.

What we decided to do at that time was to have a GVW member to meet us at an appointed place miles away from the incident site. That enabled us to get first-hand information so that we could assess it even better. After this meeting with him, I knew that this was not going to be the typical response. Our initial response from our fire department consisted of both hazmat units, six on-duty team members, we had six members called back for standby, a Battalion Chief, which was myself, the Special Operations Chief, and our Emergency Management Director who now serves as the Chief of the Augusta Fire Department.

Because I knew that the GVW had limited resources, I knew there was much more that was going to be needed than what we could supply. Our department supplied personnel at the scene and equipment for two weeks. Not only did we assist in the planning and making an action plan, we also had a direct involvement in seeing that these action plans were implemented.

I certainly hope an incident like this does not occur in any one of the cities that you represent. While I don't want anyone to have to deal with hazardous materials accidents, I do think the Federal Government has an important role to play in ensuring our Nation's emergency responders are properly trained and properly equipped to respond to these types of accidents.

Specifically, more funding should be provided for training. Firefighters need to have the appropriate level of training and we should have new tools that should be developed to better identify the hazardous cargoes. While the safety of emergency responders cannot be fully guaranteed, the number of those injured or killed as a result of exposures to hazardous materials can be impacted through hazardous materials training.

Training is not only necessary for the new recruits, it is essential for the fellow who has been there for a while. All first responders need to have reoccurring hazardous materials training. Additional funding is needed to ensure that all firefighters who respond to an incident involving hazardous materials be prepared to respond appropriately and safely.

First responders not only need just plain everyday training. We need an exceptional training. There is a facility, it is called the Transportation Technology Center in Pueblo, Colorado that handles that type of training. Through the generous sponsorship of CSX Railroad, I was provided the opportunity to attend a week-long course in March, 2005. The main emphasis of this training was on rail cars, but more specifically the tank cars. Even though I serve in a position that no longer I have to work in the hot zone, this week-long class allowed me to become familiar with everyone and they became familiar with me, and we knew what each other's duties are. This, in itself, is priceless.

We must work as a team on incidents like this. When we do this, it builds confidence with one another. If you take classroom work, add hands-on training, and add applying this training to a practical exercise, it equals a formula for the safest and most effective resolution to a hazmat incident.

Unfortunately, most first responders are not afforded this same opportunity due to the restricted budgets. We owe a lot of thanks to Norfolk-Southern and CSX for providing a way for some of this country's first responders to attend these courses. In my opinion, providing the opportunity for more first responders to attend is the type of training that is money well spent.

I think the Federal Government should assist local communities to provide this type of training to their firefighters.

Another good example of this type of training with hazardous materials is a program that is offered by the International Association of Firefighters. They are using instructors who are both certified in fire service instruction and certified hazmat responders. They offer this free of charge real-world training in local communities that few institutions can match.

This brings me to a second point: Firefighters need to receive appropriate levels of training. It is extremely important that emergency responders are trained at a level that is appropriate to their response. The Department of Labor regulations identifies five different levels of hazmat emergency response. That is: awareness, operations, technicians, hazmat specialists, and then the on-scene commander. But unfortunately, the normal training that is provided in many States is the awareness level, and this is totally unacceptable. This is inadequate.

This type of training is inadequate to prepare a firefighter response to a hazmat call. Awareness training is really intended for employees at a facility where hazardous substances are present, and is intended to do, one, train them to recognize a potential release; and two, to initiate the response. In other words, let's call the proper agency, like the fire department.

All firefighters at a minimum should be trained at the operations level. Operations level is designed for individuals who respond to releases and/or potential releases. It teaches them how to protect the nearby persons, property and the environment from the release itself.

They also train to contain a release from a safe distance, keep it from spreading, and prevent exposures. Clearly, this is the minimum level of training that firefighters should be trained.

Finally, as the Graniteville train accident proved, timely and accurate information are the key to any successful emergency response. This is especially true in a hazmat call. Without the ability to quickly and accurately identify hazardous cargo, firefighters may lack the necessary information to properly respond to a hazmat incident. An improper response could result in injury and even death to both the responder and civilians.

Identifying placards for hazardous materials rail cars are also an important life-saving tool that can help provide firefighters with the necessary information they need to respond. They are essential for first responders to quickly obtain and easily obtain information they need to size up the scene.

However, I do believe new technologies should be examined just to see how they may be best utilized to supplement placards and enhance the ability of the first responders to properly respond to incidents involving hazardous materials.

I apologize for going over, and I want to thank you again for inviting me to appear here today. If there are any questions, I will be pleased to attempt to answer them.

Mr. LATOURETTE. Chief Bell, thank you very much. You don't have to apologize. My experience with those of you from below the Mason-Dixon line, it takes about 10 minutes what we up north say in five.

Mr. BELL. Yes, sir. OK.

Mr. LATOURETTE. Mr. Mann, thank you very much for coming. We look forward to hearing from you.

Mr. MANN. Thank you, Mr. Chairman. I am also from the South, and being a lawyer on top of that, you can see the problems.

My testimony today is endorsed by the Association of Trial Lawyers of America. I am a trial lawyer. As background, I participated in drafting the Federal Railroad Safety Act in 1970, and in particular the preemption section. In fact, I looked at some of my old files going back to those years, and I found some of my handwriting on the preemption section which I helped draft.

I have been involved in quite a number of hazardous materials accidents as either a consultant or representing the plaintiffs in the litigation. So I think I can give the Committee some insight on what Congress did in its deliberations in 1970 regarding preemption, and where it is today.

First, the rail industry, I appreciate Mr. Hamberger stating that he regretted and offered his sympathy to the innocent victims, but two points. One is in every case that I have ever been involved in regarding hazardous materials accidents and serious injuries, the entire industry has argued in front of the courts that we were preempted. State common law did not apply. I submit to you that nowhere in the Federal Railroad Safety Act deliberations by Congress was there any suggestion that State common law should be preempted. It wasn't even proposed by the railroads in those days. It is a recent phenomenon.

It is just inconceivable that Congress at that time, or even today, would even consider depriving innocent victims from recovery where there is negligence involved. We are not talking about cases where there was no negligence. We are talking about negligence. If there was no negligence resulting from these accidents, there

would be no litigation. We are talking about somebody who caused a problem.

I submit to you that the Minot decision is a strange decision, I must admit. It is wrong on many grounds in my view. Of course, my view is just as an individual, but the Supreme Court has offered its views on preemption. I am just going to spend just a minute on what it has said. First of all, there is a presumption against preemption. Secondly, it pointed out under the Federal Railroad Safety Act that it displays considerable solicitude for State law. And finally, to be preempted, there must be a clear and manifest purpose of Congress. That certainly didn't happen in the Federal Railroad Safety Act.

Now, I want to point out a couple of things that were raised in the hearings today. One is, Mr. Barrow, you mentioned train make-up. Well, the railroad workers going back into the early 1980's proposed to both Congress and the Federal Railroad Administration that there be standards set by FRA on train makeup. However, train track dynamics is a complicated issue. I will just give you one example. If there are heavy loaded cars at the rear of the train and empty cars in the front of the train, you are begging for a derailment. So that can't occur. You have to have some combination that is a safe train makeup. But there should be standards. I absolutely agree with you, and so do all the railroad workers in the country.

Regarding the issue of human factor accidents, which you have heard this morning, where they pointed out, various witnesses, that it is up to about 40 percent today. I want you to keep in mind that the railroads themselves and the railroads only determine the causes of accidents, which are reported by the Federal Government. The FRA doesn't investigate. They may investigate maybe 1 percent of the accidents in the country. So that statistic must be taken in context with everything else you have to consider.

With regard to the national insurance issue, well, first of all, if you look at what happened with the nuclear industry and the Federal insurance, I think you are going to find there are significant problems there.

But aside from that, the incentive to provide a safe railroad is the key to everything. Unless an innocent victim can recover, that incentive goes away because in truth, if one would really analyze Federal Railroad Administration enforcement, it is very weak. They do a nice job on certain things, but it is barely a slap on the wrist on the number of penalties that they impose versus how many violations they discover.

Thank you very much.

Mr. LATOURETTE. Thank you very much, Mr. Mann.

Mr. Beardsley, thank you for your patience. We look forward to hearing from you.

Mr. BEARDSLEY. Thank you, Mr. Chairman, Mr. Barrow. Good afternoon and thank you for the invitation to speak today.

My name is James Beardsley. I am here with my colleague Deborah Bates, and we are attending the hearing representing Aon's national rail practice. We are in the business of providing insurance brokerage and risk management solutions to the railroad and rail-related industries.

As representatives of Aon's national rail practice, we currently design the excess liability programs for all but one of the five American Class I freight railroads. In addition, we have a substantial book of short line, transit and national passenger rail accounts.

Our purpose for being here today is to give the committee a snapshot of the current state of the rail liability market and how the transportation of hazardous materials may impact the capacity and pricing of the insurance for those railroads.

Globally, there are currently three geographic centers for railroad liability insurance: the United States, Europe and Bermuda. Their combined capacity for rail is about \$1 billion. Our written testimony gives a rundown of the more substantial underwriters in this arena, but I don't see that there is any need to go through those things individually right now.

In the overall global insurance market, there is substantially more than \$1 billion available, but we are dealing with a class that is considered to be quite volatile and only a select few companies are willing to participate.

Of the underwriters referenced in the written testimony, there are about four of them that are considered to be lead markets. The lead markets set the terms and conditions of the insurance in negotiation with ourselves and our clients, the railroads. They set the pricing and the attachment point on the lowest layer of the insurance.

The American domestic leaders, the American Home and the Lexington, are both divisions of AIG. The European leaders are the Gerling, which is headquartered in Cologne, Germany, and Lloyds of London, of course, led by the syndicate, the Wellington. Over the last several years, the North American railroad liability market has contracted substantially. Five years ago, railroads were able to purchase in excess of \$1.5 billion of liability coverage.

The number of insurance companies and Lloyd syndicates willing to write freight railroads has decreased, while the price charged for the capacity has increased. There are several events that have exacerbated this situation, including the events of September 11, large derailments with chemical releases, contraction of the worldwide insurance market for risks like railroads, large passenger losses, and even the hurricanes.

It is important to note that the recent bombings in both London and Madrid focused underwriters' attention on the terrorist threat as well as it relates to the rail industry. This is in light of the fact that most of the participating liability underwriters provide full terrorism cover and a large percentage of that capacity is not eligible for protection under the extended TRIEA as it comes from foreign insurance companies. As a result, any further terrorist event on a transit passenger or freight railroad could have a disastrous impact on the available rail capacity and the breadth of coverage available.

Now, perhaps more specific to the subject of this hearing, we are very concerned that a further large liability loss involving hazardous chemicals, especially inhalants, could result in an additional contraction of the liability market capacity and a spike in its price. When underwriters are examining a submission in order to evaluate the exposures on freight railroads, their attention is drawn to

the number and type of hazardous material carloads. This information will have a direct bearing on the premium charged and the capacity offered.

Underwriters focus on the holding of hazardous materials because they have been the proximate cause of many of the largest losses to insurers to date. We feel that we should emphasize that terrorism and hazardous chemical data must be looked at in conjunction with each other. These are the two major areas of concern for the participants on excess liability programs for freight railroads, and thus are a major concern for the railroads themselves.

In conclusion, as the professionals charged with the task of securing financially secure capacity for our railroad clients to cover catastrophic accidents or events, we must report that we are concerned. We are concerned about the continued viability of the railroad liability market in the face of another catastrophic hazmat claim.

We are concerned more from the standpoint of adequate availability than merely cost. Had the Graniteville, South Carolina loss happened at a different time of day or another railroad derailed in a more populated area, the likelihood of the ultimate loss exceeding the available insurance, and thus undermining the liability market's long-term commitment to railroads, increases dramatically.

At Aon, we are always in search of new and additional capacity to replace underwriters who exit the rail liability market. At this point in time, there are not many options open to replace the waning capacity. One more catastrophic loss could collapse the available structure of the risk transfer completely.

Thank you very much for your time, and I look forward to your questions.

Mr. LATOURETTE. Thank you, Mr. Beardsley.

Just so I am clear, when you say that the current capacity of \$1 billion, are you indicating that if I was a railroad and I wanted to buy the most insurance that was available to me, that the most insurance that is available to a Class I railroad today is a policy of \$1 billion?

Mr. BEARDSLEY. It is about \$1 billion.

Mr. LATOURETTE. About \$1 billion. And just when you talk about attachment points, is that what I would call a deductible?

Mr. BEARDSLEY. Right.

Mr. LATOURETTE. OK.

Mr. BEARDSLEY. Similar to that, but I won't get into insurance-ese with you.

Mr. LATOURETTE. OK. So basically, if the railroad was flush with cash and wanted to buy the best policy that they could, they could get maybe \$1 billion of coverage. What would the attachment point be, \$50 million?

Mr. BEARDSLEY. Most of the attachment points currently are at about \$25 million.

Mr. LATOURETTE. About \$25 million. Are you aware of any judgments or any exposure above \$1 billion that has been incurred in judgments against railroads?

Mr. BEARDSLEY. No, I don't. The largest insured loss to date that we are aware of is the Graniteville, South Carolina loss, which is reserved as something substantially less than that.



Mr. LATOURETTE. OK, thank you.

Mr. Mann, I have to agree with you. I don't know how the court came up with a decision in the Mehl case. I don't know what they were thinking. I don't know how they determined that there was preemption.

I was interested because one of my questions was whether or not the railroad had argued that there was preemption, because I find that to be kind of an interesting argument. Without naming the railroad, we had a similar situation back in Ohio where a railroad came in and said that State law should apply, and then when they lost, they said, oh, wait a minute, we think Federal law should apply.

I didn't quite understand that. Are you aware, however, in that case that in both of our opinions was wrongly decided, is there any constitutional recourse for the folks that had their claims dismissed or settled in light of the fact that the court ruled the way that it did?

Mr. MANN. The litigation has moved to Minnesota because the Federal judge apologized in his opinion, and he suggested that the plaintiffs move their case to Minnesota. However, both cases have been removed to the Federal court. In the Federal court system, there have been inconsistent decisions. In most all of the State court decisions, they have not ruled that there was preemption of State common law.

One of the arguments made in the preemption arena is that under the 49 U.S.C. 20-106, which is the preemption section, the railroads, one of their favorite arguments is Congress said there should be national uniformity. Well, the Supreme Court has addressed that also, I would submit, in a case called *Sprightsman v. Mercury Marine* at 537 U.S. 51. The Supreme Court said, the concern with uniformity does not justify the displacement of State common law remedies that compensate accident victims and their families and that serve the actual prominent objective of promoting, this was a Boat Safety Act case, which is almost the same language as the Federal Railroad Safety Act language regarding preemption.

So the Supreme Court told the judge that uniformity is not the key here, but the judge just paid no attention to it.

Mr. LATOURETTE. Right. And Chief, I took from your testimony that you found the experience out at the Pueblo site run by the FRA and AAR to be time well spent. Did you train on the permanent train wreck out there that they have?

Mr. BELL. Yes, sir. It is as realistic as it can get, even as far as live fires and actual explosions.

Mr. LATOURETTE. I remember when I was out there, I was so impressed with it. We had the folks from Union Pacific who were training at the time, and they had one fellow in on his laptop corresponding with people so that they could assess what it is that the first responders were dealing with, and then the crew was out there.

I found it to be great. I know you were in the room. We discovered in preparation for this hearing that they had a capacity out at Pueblo to do three times as much training as they are currently doing. I hope Administrator Boardman takes it up with his coun-

terparts at Homeland Security. I don't know why we wouldn't be sending people out there. I think it is money well spent.

And then lastly, before I yield to Mr. Barrow, Mr. Durbin, you were in the room when you heard Mr. Hamberger's proposal about a Federal backstop, for lack of a better word, and I assume I know your answer, on being relieved from the common carrier obligations. I am not even going to ask you on that question.

But what is your reaction to the proposal by AAR relative to this Federal backstop or cap?

Mr. DURBIN. Again, our concern was whether or not removing or reducing liability would end up somehow providing a disincentive for improving safety. But it is an issue that has got to be discussed within the entire transportation system, to make sure that we are doing everything possible from rail operations to tank car design to emergency response, to look at the whole picture before we start looking at where do we reduce and remove liability in the system.

Mr. LATOURETTE. Then let me just ask you this, we have this whole issue of these dangerous chemicals. I think I asked Mr. Hamberger about it. Why don't some of your members substitute this sodium hypochloride for chlorine gas? Why isn't that a decision that is made to benefit, reducing everybody's liability? Do you know?

Mr. DURBIN. Well, those are decisions made by the customers and the users, and those decisions are being made. They are legitimate decisions that have to be made, and that are made, but they are not simple, just let's go swap out a chemical here. The Blue Plains decision was a three year process to come up with, is this the right thing for the Blue Plains facility. There were a lot of risk tradeoffs there. I think it was a perfectly legitimate decision to make, but they no longer have the rail tank car there. You now have for every tank car, multiple trucks that are on the railroad. I am not saying it was a bad decision, and those decisions are being made.

Secondly, I would tell you from an industry standpoint, I mean, this is an industry, and certainly our members don't shy away from innovation and competition, and are always changing and innovating and improving the safety of their products and the way we distribute them. We spend \$23 billion a year in research and development. One of every eight patents goes to the business of chemistry.

We have the safest manufacturing industry in the country. We are very proud of that. So I think that these are things that we bring to the table when we are part of this system for improving safety in the transportation sectors.

Mr. LATOURETTE. Thank you very much.

Mr. Barrow?

Mr. BARROW. Thank you, Mr. Chairman.

Chief, I want to follow up on your comments and explore a couple of areas: one, the importance of training and the level of training, and also the importance of real-time notice. If we take anything away from this hearing today, from the first responder community, it is to take an understanding of just how training plays a role in this.

I don't think a lot of folks realize this, but any level of training and responding to a hazmat situation delays your response to some

extent. And inadequate training delays your response even more. I know it runs kind of counterintuitive because the culture of the first responder community is rush to the hazard, as close as you can; close with the enemy; and deal with it.

But how is the situation different when you all know you are dealing with a hazmat situation?

Mr. BELL. Well, you are exactly right. That is the reason there are red lights and sirens on fire trucks is to get there quick. That is the typical norm for firefighters. We want to get there quick and our ultimate goal is to help. When we show up, we are there to help, whether it is to save a life or property.

When you look at the hazmat aspect of it, it changes completely. We have to sit back. We have to formulate game plan, and you have to make sure the game plan is well organized and put together, and everybody has to agree on it.

Let me make a quick comparison. I have thing in my head that I compare a hazmat situation to. If you were to take me outside this room, blindfold me, tie my hands up, and cut out all the lights and cover all the windows, and you tell me: Over there on the left side of the room there is a rattlesnake; go get it.

And see, you just can't rush in. That is what a hazmat situation is like. It is trying to deal with something and the more information you get, you know, you untie my hands, and I get more information, and the blindfold comes off; more information, the lights come on, and so forth and so on.

So you have to sit back and wait until you have the right information and wait until you have the right plan, then go.

Mr. BARROW. This leads to my next observation about the importance of training, and inadequate training. Any amount of training tells you you have to stand off from the hazardous situation. Inadequate training doesn't give you some idea of how to attack the situation. So I first want to commend the industry and the FRA, because together they are funding training efforts. But this is an area where I think we can and need to do more.

What is the effective level of training we have right now? And how does that delay response even more?

Mr. BELL. Basically, everybody trains to awareness, which is what just tells you, watch out; there is something going to happen; get out of the way. The International offers the operations level free of charge, and I really think that is a good program. They offer a very good program.

Mr. BARROW. It gives you the ability and the training to actually do something about it.

Mr. BELL. Exactly. You know, you can take it further. We have a few in our fire department that are beyond the hazmat tech level. But operations is the minimum. Awareness, to be honest with you, is just not enough.

Mr. BARROW. Lastly, on the subject of real-time notice, an important subject any way you look at it. According to the reports of the NTSB and others, there was at least a 25 minute to one hour delay in getting information on what the railroad knew and when they knew it, to the first responders on the scene. When you tack a 25 minute to one hour delay in responding to all the people in the sit-

uation, aren't you increasing significantly the risk of harm to folks who could be rescued?

Mr. BELL. Yes, sir. First of all, to get the information, you can formulate a game plan and do your rescue. The further you delay it, until you get the information, you can't formulate a plan.

Mr. BARROW. They had a lady who was trapped in the car as a result of the collision and was right next to the incident, who managed to survive the thing. If the wind had changed, she would be dead today.

Mr. BELL. That is correct. She did survive and she was rescued. But like I said, until we knew exactly what was going on, we didn't want to send a rescuer in there, so we had to get the information.

Mr. BARROW. My point is, as long as it takes you all to formulate a plan, and as long as it takes you all to implement a plan, if you tack on the time it takes for us to get the information the railroad had to you all, that is just that much added time, that much added exposure to risk of harm.

Mr. BELL. Yes, that is exactly right. Time is a very important factor. The more time you take to get to a victim, the less chance their survivability is.

Mr. BARROW. Thank you, Chief.

Mr. LATOURETTE. Thank you, Mr. Barrow.

To this panel, I want to thank you very much for your testimony, and also for answering our questions. I want to thank all of the witnesses who appeared before us today, together with the members who participated.

This hearing is adjourned. Thank you very much.

[Whereupon, at 1:42 p.m. the subcommittee was adjourned.]

**BEARDSLEY**

*Aon Risk Services*

**Committee on Transportation & Infrastructure  
Subcommittee on Railroads**

*Aon Risk Services*

*National Rail Transportation Practice*

**Testimony**

**June 13, 2006**

*Aon Risk Services*

Aon Risk Services  
Rail Liability Insurance Market

James R. Beardsley and Deborah S. Bates are attending the hearing representing Aon Risk Services' Rail Practice. Aon Risk Services is a world leader in delivering integrated, innovative solutions in insurance and risk management, human capital consulting and specialty insurance underwriting. Our professionals are experts in their fields and possess specialized knowledge and skills. One of the specialties is a dedicated industry focus on railroads and rail related industries. Within that specialty, we are recognized as the industry leader.

As well as being the leading freight railroad insurance broker in the world Aon is the:

- No. 1 global reinsurance broker
- No. 1 global manager of captive insurance companies
- No. 1 global retail insurance broker

As representatives of Aon's National Rail Practice, we currently design the excess programs for all but one of the five American Class 1 freight railroads. In addition, we have a substantial book of short line, transit and national passenger rail accounts.

Our purpose for being here today is to give the committee a snapshot of the current state of the rail liability market. Additionally, we will discuss how the transportation of hazardous materials impacts the capacity and pricing of insurance for the railroads.

Globally there are currently three geographic centers for railroad liability insurance, U.S., Europe and Bermuda.

Their combined capacity is almost one billion dollars. The smallest market is the U.S., with only about \$75 million. The European markets have the capability to provide an additional \$300 million. Finally, since 2002 Bermuda has come into the market with a further \$575 million.

American

American Home	\$50M
Lexington	\$25M

European

Gerling	\$75M
Liberty International	\$50M
Lloyd's	\$50M
SCOR	\$25M
Swiss Re	\$50M-\$100M
XL Europe	\$50M

Bermuda

ACE	\$150M
Arch	\$25M
Allied World	\$50M
Chubb	\$35M-\$50M
Endurance	\$25M
Max Re	\$25M
Starr	\$150M
XL Bermuda	\$100M

In the overall global insurance market there is substantially more than \$1B depicted above available, but we are dealing with a class that is considered to be very volatile and only a select few companies are willing to participate. In order to access this capacity the railroads are required to pay substantially more than most other industry groups at an equivalent attachment point, as the potential exposure to loss is deemed to be far higher.

Within the companies listed above there are four that are considered to be lead markets. The lead markets set the terms and conditions of the insurance. They set the pricing and the attachment point of the lowest layer of insurance. The expertise of these individuals is accepted in most cases by the rest of the market as the base on which to build the balance of the program to the level required by each railroad. The American domestic leaders are American Home and Lexington, both divisions of AIG. The European leaders are Gerling, headquartered in Cologne, Germany, and Lloyd's of London syndicate, Wellington.

Over the last several years the North American railroad liability insurance market has contracted substantially. Five years ago railroads were able to purchase in excess of \$1.5 billion in coverage. The number of insurance companies and Lloyd's syndicates willing to write freight railroads has decreased, while the price charged for the capacity has increased. There are several events that have exacerbated this condition.

- September 11, 2001
- Large derailments with chemical releases
- Contraction of the worldwide insurance market
- Large passenger losses
- Hurricanes

As a result of September 11<sup>th</sup> a substantial amount of insurance capacity withdrew from the market. It was not as a direct result of large liability losses that occurred on that date, but the impact on the capital base of the insurance market as a whole.

Over the last 10 years freight railroads have sustained several catastrophic liability losses. The insurance markets have reserved these losses in excess of \$600M against premiums paid of approximately \$300 million. As a result of these events several insurance companies have ceased writing railroad insurance. Some of the companies that have exited the North American rail business include:

- CNA
- American Re
- California Union
- General Star
- TIG
- Anglo American
- Zurich London

In general, the insurance market, both foreign and domestic, has contracted. Over the last decade the number of active Lloyd's syndicates has substantially reduced. At one point Lloyd's marine syndicates could be counted on for a substantial participation in the higher layers on a railroad program. In recent years their capability has been substantially curtailed due to tighter internal regulations combined with decreased willingness to participate on accounts considered to be volatile.

Lastly, the losses incurred on passenger and transit systems adversely impact freight railroad insurance capacity and pricing. Freight and transits are usually written by the same underwriters; therefore any loss incurred by one adversely affects the other.

As you know, 2005 was a cataclysmic year for natural disasters. Insurance market losses for Katrina and Rita have been estimated to be in excess of \$70 billion dollars. While there were no large liability losses for large freight railroads as a result, there were a few very large property claims. These losses are currently estimated to exceed \$600 million. There is indirect effect on liability from property losses in a given class of business.



The recent bombings in both London and Madrid focused underwriters attention on the terrorist threat as it relates to the rail industry. This is in light of the fact that most of the participating liability underwriters provide full terrorism cover and a large percentage of the capacity not eligible for protection under TRIEA as it comes from foreign insurance companies. As a result, any further terrorist event on a transit, passenger or freight could have a disastrous impact on the available rail capacity and the breadth of coverage available. Underwriters' concern is emphasized by the attention paid during the renewal process to information provided in the Terrorism Questionnaire that is currently required in all market submissions. This information has a marked effect on all underwriter's willingness to provide coverage. In most cases, the more in-depth the information provided to underwriters as to the perceived exposures and the lengths to which the railroad has gone to mitigate them will only serve to enhance the terms that underwriters are prepared to offer.

We are concerned that further large liability losses involving hazardous chemicals, especially inhalants, will result in an additional contraction of the liability market capacity and a spike in price. We feel that if there is another chemical loss in excess of \$50 million that the current insurance attachment point of \$25 million dollars will likely disappear. It is expected that the self insured retention will increase to at least \$50 million. This will not be a decision that the railroads make, it will be foisted upon them by the market, as there will be no underwriters willing to participate below \$50 million of self insured retention.

When underwriters are examining a submission in order to evaluate the exposures on freight railroads, their attention is naturally drawn to the number and type of hazardous material carloads. This information will have a direct bearing on the premium charged. Underwriters focus on the hauling of hazardous materials because they have been the proximate cause of many of the largest rail industry losses to date. They will also pay considerable attention to the amount of investment committed by the railroad on maintenance of way and equipment in order to ensure that the infrastructure is of the highest possible standard.

We feel that we should emphasize that terrorism and hazardous chemical data must be looked at in conjunction with each other. These are the two major areas of concern for the participants on excess liability programs for freight railroads and thus are a major concern for the railroads themselves

In conclusion, as the professionals charged with the task of securing financially secure capacity for our railroad clients to cover catastrophic accidents or events, we must report that we are concerned. We are concerned about the continued viability of the railroad

liability market in the face of another catastrophic hazmat claim. We are concerned more from the standpoint of availability than merely cost. Had the Graniteville, SC loss happened at a different time of day, or another railroad derailed in a more populated area, the likelihood of the ultimate loss exceeding available insurance and thus undermining the liability market's long term commitment to railroads increases dramatically.

At Aon, we are always in search of new, additional capacity to replace underwriters who exit the rail liability market. At this point in time, there are not many options open to replace waning capacity. One more catastrophic loss could collapse the available structure of risk transfer completely.

James R. Beardsley  
Managing Director  
Aon Risk Services  
National Rail Transportation Practice

**Written Statement of Chief Steven Bell  
Battalion Chief, Augusta Fire Department  
before the  
Subcommittee on Railroads,  
Committee on Transportation and Infrastructure,  
U.S. House of Representatives  
June 13, 2006**

Good morning, my name is Steven Bell, and I am a Battalion Chief for the Augusta, Georgia Fire Department. I would like to start off by thanking Chairman Steven LaTourette and Ranking Member Corrine Brown for holding this important hearing. I also want to thank Congressman John Barrow for inviting me to testify here today.

For the past 31 years, I have been employed as a firefighter and first responder. My tenure began in the mid 70's. However, it wasn't until the early 80's that we began to realize that a specialized group of firefighters was needed to handle any incident that might occur in the industrial or transportation fields in Augusta. Prior to the early 80's, the only hazardous materials we worried about were gasoline, natural and propane gas. The only tools we had at our disposal to deal with hazardous materials incident were water, foam, hand held fire extinguishers, and an assortment of natural gas line plugs.

In 1985 a few firefighters began the up hill battle of forming our first hazmat team. Any equipment that was obtained came by way of donations from our local industry. Today our hazmat team consists of 23 members. We also have two custom-built hazmat units; level A, B and C suits, patch kits and other equipment.

Our training and equipment were put to the test on January 6, 2005, when a freight train carrying chemicals hit a parked train near an Avondale Mills plant in Graniteville, South Carolina. The impact caused poisonous chlorine gas to leak from three of the moving train's cars. More than 5,000 people were evacuated from the site and nine people were killed.

I was on duty at the time of the Graniteville accident. The Graniteville-Vaocluse-Warrenville Volunteer Fire Department initially responded to the accident. They were not aware that the accident caused a chlorine leak. Approximately 25 minutes after the initial response, our hazmat team was requested to assist in this incident. Our 911 center contacted my office by phone. The 911 dispatcher relayed all of her information to me. However, the information was not clear. Our first action was to assemble a team at one of our two-hazmat stations. After we obtained as much information as possible we requested that a member of the Graniteville-Vaocluse-Warrenville Volunteer Fire Department to meet with us several miles away from the site. This enabled us to gather more first hand information. After this meeting with the Graniteville-Vaocluse-Warrenville Fire Department representative, I knew that this would not be the typical hazmat incident. The initial response from our department consisted of the following: hazmat units (six team members with an additional six on stand by), one battalion chief, the special operations

chief and our Emergency Management Agency director who now serves as the fire chief of the Augusta Fire Department. Graniteville-Vaughton-Warrenton resources are limited and it became apparent that much more was going to be needed.

Our department supplied personnel at the scene for two weeks. Not only did we assist in the planning aspect of the response, we also had direct involvement in seeing that these action plans were implemented.

I hope that an accident similar to the one in Graniteville does not happen in one of the cities you represent. While I don't want anyone to have to deal with a hazardous materials accident, I do think that the federal government has an important role to play ensuring that our nation's emergency responders are properly trained and properly equipped to respond to incidents, such as the accident in Graniteville, involving hazardous materials. Specifically, 1.) more funding should be provided for training, 2.) firefighters need to receive the appropriate levels of training, and 3.) new tools should be developed to better identify hazardous cargo.

While the safety of emergency responders can be fully guaranteed, the number of those injured or killed as a result of exposure to hazardous materials can be significantly impacted through hazardous materials training. Training is not only necessary for new recruits, it is also essential to provide refresher training to all first responders to ensure their ongoing safety. Additional funding is needed to ensure that all firefighters who respond to an incident involving hazardous materials be prepared to respond appropriately and safely.

First responders not only need training in area of hazmat response, we need exceptional training. There are training facilities that provide hands-on training such as the Transportation Technology Center in Pueblo, Colorado. Through the generous sponsorship of the CSX Railroad I was provided with the opportunity to attend a week long course in March of 2005. The main emphasis was on rail cars especially the various tank cars. Even though I serve in a position in which I no longer work in a hot zone, this week long class allowed everyone to become familiar with one another and our duties at an incident. This alone is priceless. We must work as a team and courses like this build confidence with one another. Classroom work + hands on training + applying this training to a practical exercise = a formula for the safest and most effective resolution to a hazmat incident.

Unfortunately, most first responders are not afforded this same opportunity due to restricted budgets. We owe a lot of thanks to Norfolk and CSX for providing a way for some of this country's first responders to attend these courses. In my opinion, providing the opportunity for more first responders to attend this type of training is money well spent. I think that the federal government should assist local communities to provide this type of training to their firefighters.

Another excellent example of the sort of training that should be expanded upon is the hazardous materials training program offered by the International Association of Fire

Fighters (IAFF). Using instructors who are both certified fire service instructors and certified hazmat responders, the IAFF offers, free of charge, real-world training in local communities that few institutions can match.

This brings me to my second point, firefighters need to receive the appropriate levels of training. It is extremely important that emergency responders are trained at a level appropriate to their response. Department of Labor regulations identify five different levels of hazmat emergency response training: Awareness, Operations, Hazmat Technician, Hazmat Specialist, and On-Scene Incident Commander. Unfortunately, the level of training that is currently provided in many states and localities is at the “awareness” level. This training is inadequate to prepare firefighters to respond to a hazmat call. Awareness training is intended for employees at facilities where hazardous substances are present, and is intended to 1.) train such employees to recognize potential releases of a hazardous substance and 2.) initiate a response sequence by contacting the appropriate emergency response entity, such as the local fire department.

All firefighters should, at a minimum, be trained at the “operations” level. Operations level training is designed for individuals who respond to releases or potential releases of hazardous substances to “protect nearby persons, property, and the environment from the effects of the release.” They are trained to contain the release from a safe distance, keep it from spreading and prevent exposures. Clearly, this is the minimum level at which firefighters should be trained.

Finally, as the Graniteville train accident proves, timely and accurate information are key to any successful emergency response, and this is especially important on a hazmat call. Without the ability to quickly and accurately identify hazardous cargo, firefighters may lack the necessary information to properly respond to a hazmat incident; an improper response could result in injury or even death of both firefighters and civilians.

Placards identifying hazardous materials on rail cars are important and life-saving tools that help provide firefighters with the information they need to properly respond, and they are essential for first responders to quickly and easily obtain the information they need to assess a scene. However, new technologies should be examined to see how they may best be utilized to supplement placards and enhance the ability of first responders to properly respond to incidents involving hazardous materials.

I thank you again for the opportunity to appear before you today. I would be pleased to answer any questions.

*June 13, 2006*

**Statement of U.S. Representative Shelley Berkley (NV 01)  
Hearing on Current Issues in Rail Transportation of Hazardous Materials  
House Committee on Transportation and Infrastructure  
Subcommittee on Railroads**

Mr. Chairman and distinguished members of the Subcommittee:

Thank you for allowing me this opportunity to express my concerns about an issue of great importance to the families I represent in Southern Nevada – the transportation of high-level nuclear waste.

Current plans for the proposed nuclear waste repository at Yucca Mountain, roughly 90 minutes drive from Las Vegas, call for decades of waste shipments to Nevada. Each and every train carrying this toxic cargo represents an accident waiting to happen or a potential target for terrorists looking to unleash radioactive contamination or to acquire materials for a dirty bomb.

Experts from the State of Nevada have predicted that over the course of more than three decades of shipments, there will be anywhere from 160 to 390 accidents involving nuclear waste. And the cost of clean-up for one such accident could run well into the billions, according to these same state officials.

But the transportation of nuclear waste is not only a Nevada problem. Railroad shipments of nuclear waste will cross 44 other states on their way to Nevada, passing through communities large and small, and by hospitals, schools, houses of worship and the backyards of millions of families.

No study has fully addressed the vulnerability of these waste shipments to a deliberate 9/11-style terrorist attack or what the aftermath of such a strike would be on nearby communities and commercial rail service. A successful terrorist attack on a shipment of nuclear waste could unleash enough radiation to threaten human life and permanently contaminate the environment. Health impacts from such an incident include increased cancer deaths from radiation exposure, while clean-up costs from such an incident could easily run into the billions. Areas surrounding the site of the contamination, including rail lines, could be off-limits for years, or even permanently, if radiation levels remain sufficiently high.

Rail shipments to Yucca Mountain are also at risk of an accident, including those involving other hazardous materials which could further compound the existing danger presented by nuclear waste alone. In addition, America's local first responders lack the training and equipment required to handle a large accident involving high-level nuclear waste.

Communities at risk from shipments of nuclear waste must be given the resources and training to prepare not only local police and firefighters, but also those who live near rail routes that will see shipments of radioactive garbage destined for Yucca Mountain.

While the Bush Administration, the nuclear industry and other Yucca Mountain supporters will attempt to downplay the very real possibility of an accident or attack releasing harmful amounts of radioactivity, it must be remembered that the sheer number of shipments required under the President's plans for Yucca Mountain will be far greater in number and far longer in duration than anything that has gone on in the past.

Despite this incredible danger, and the need for cooperation at the local, state and federal level, there is now a move underway in Congress to eliminate current requirements now in place that provide local authorities with a role in transportation planning regarding nuclear waste shipments.

This legislation, which was written by the Bush Administration and introduced in the U.S. Senate, has drawn the criticism of the Western Governors Association, which has warned that the plan could seriously undermine shipment safety. In a letter sent this week to my office, the Council of State Governments (CSG) raised similar concerns about the provisions in the Senate bill targeting waste transportation. The letter clearly states that the proposed bill threatens the safe transport of radioactive waste and that if passed it would, "eliminate states' roles in transportation planning and operations, cripple states' abilities to maintain emergency response readiness at the highest level and undermine public confidence in the program."

Plans for the proposed Yucca Mountain repository also call for the construction of a new rail line that would carry waste shipments across hundreds of miles of open terrain to the planned repository. I strongly oppose this multi-billion dollar proposal and believe that should it be built, any such line must conform with all existing requirements for oversight and local input that would apply to any commercial railroad. Trains carrying nuclear waste through Nevada would be no less dangerous than trains carrying nuclear waste through New York, Kansas, Alabama or Idaho and no special treatment should be given to this route when it comes to environmental assessments, security requirements and regulation.

Whether we are discussing high-level nuclear waste or any other hazardous shipment that moves by train, the issue of homeland security and our ability to protect America's rail infrastructure must be our key consideration. Despite high-profile terrorist rail bombings in Spain and England and the attacks of 9/11, America's passenger and freight rail systems remain highly vulnerable targets. Each unguarded railroad crossing in our nation must be seen as a weak link in our chain of defense. Each shipment of cargo or luggage that goes unscreened must be considered as a potential weakness waiting to be exploited by those who will stop at nothing to strike our communities.

Overcoming this enormous, and frankly frightening, lack of rail security will require a massive commitment at the federal level to address these massive shortcomings. Until this alarming gap in our rail security is addressed, any plan that calls for large scale shipments of nuclear waste will be the equivalent of drawing a giant bull's-eye on those communities that lie along our nation's rail corridor. It is the height of irresponsibility to move forward on a plan that will send vulnerable shipments of radioactive waste past the homes and businesses of more than 50 million Americans knowing that our towns and cities, and our first responders, are incapable of policing these shipments and lack the resources and training to respond in the event of a disaster or terrorist attack.

**Written Statement of Joseph H. Boardman,  
Administrator,  
Federal Railroad Administration,  
U.S. Department of Transportation,  
before the  
Subcommittee on Railroads,  
Committee on Transportation and Infrastructure,  
U.S. House of Representatives  
June 13, 2006**

Chairman LaTourette, Ranking Member Brown, and other members of the Subcommittee, I am very pleased to be here today to testify, on behalf of the Secretary of Transportation, about "Current Issues in Rail Transportation of Hazardous Materials." Safety is our top priority, and the strategy we use to promote safety is, first, to prevent accidents by means of research, regulation, inspection, investigation, and enforcement; and second, to mitigate, by those same methods, the consequences of accidents that do occur. Recent statistics show that the rail industry's safety performance, as a whole, is improving. In particular, the vast majority of hazardous materials shipped by rail tank car every year arrive safely and without incident, and railroads generally have an outstanding record in moving shipments of hazardous materials safely.

However, some recent train accidents involving the release of hazardous material have highlighted specific issues requiring government and industry attention. The safe transportation of hazardous materials by rail is necessarily dependent on the safety of the entire railroad system as a whole, and the failure of even a single part of this system can lead to a catastrophic accident. As I will explain, FRA is targeting the most frequent causes of accidents; focusing our oversight resources on the areas of highest risk; and accelerating research efforts that have the potential to mitigate the largest potential risks and hazards to operating safety and the public. By improving railroad safety overall, FRA expects to achieve further improvement in the safety of hazardous materials transported by rail.

**Recent Train Accidents Involving Release of Hazardous Material**

FRA is concerned with all rail accidents that result in any release of a hazardous material, regardless of the quantity of material released. Again, the vast majority of hazardous material shipments arrive at their destinations safely; few tank cars have leaks or spills of any kind; fewer still are breached in an accident or incident.

Considering just chlorine, for example, since 1965 (the earliest data available) there have been at least 2.2 million tank car shipments of chlorine—only 788 of which were involved in accidents (0.036 percent of all the shipments). Of those accidents, there were 11 instances of a catastrophic loss (i.e., a loss of all, or nearly all) of the chlorine lading (0.0005 percent of all the shipments). Of the 11 catastrophic losses, four resulted in fatalities (0.00018 percent of all the shipments)—the most recent two of which (Macdona, Texas, and Graniteville, South Carolina) are discussed below.



For all hazardous materials, in the 12 years from 1994 through 2005, hazardous materials released in railroad accidents resulted in a total of 14 fatalities. In the same period, hazardous materials released in highway accidents resulted in a total of 116 fatalities. While even one death is too many, these statistics show that train accidents involving a release of hazardous material that causes death are infrequent and rare.

It is also important to quantify the risk of any hazardous material release—whether fatal or not—because of a railroad accident. In the year 2004, for example, there were approximately 1.7 million shipments of hazardous materials by rail, and there were 29 train accidents in which a hazardous material was released. In these accidents, a total of 47 hazardous material cars released some amount of product. The risk of a release was a tiny fraction of a percent (47/1,700,000, or 0.0028 percent).

Nonetheless, three recent train accidents that involved release of hazardous material and resulted in death and injury highlight specific rail safety areas that FRA continues to address to minimize accidents and make all rail transportation safer.

First, on January 18, 2002, a Canadian Pacific Railway Company (CP) train derailed in Minot, North Dakota, resulting in one death and 11 injuries due to the release of anhydrous ammonia. The National Transportation Safety Board (NTSB) determined the probable cause of the derailment to be an ineffective track inspection and maintenance program by CP that did not identify and replace cracked joint bars before they completely fractured and led to the breaking of a rail at the joint. I will discuss later FRA's research and regulatory initiatives to address joint bar cracks, and FRA's research concerning the survivability of hazardous material tank cars in accident situations.

Second, on June 28, 2004, a Union Pacific Railroad Company (UP) train collided with a Burlington Northern and Santa Fe Railway Company (BNSF) train in Macdonia, Texas, breaching a loaded tank car containing chlorine and causing the deaths of three people. Based on initial findings, one train crew's noncompliance with UP's operating rules may have been a causal factor. As a result of this and other accidents, FRA entered into safety compliance agreements with UP on November 12 and December 2, 2004, addressing three geographical UP service units of concern. The agreements required UP to re-instruct all of the testing managers in these service units on the railroad's program of operational tests and inspections. Thereafter, UP was to formulate monthly plans and conduct operational tests and inspections in order to improve its employees' compliance with the railroad's operating rules. Subsequent FRA inspection of UP's entire southern region indicated that the railroad was making progress implementing the requirements of the agreements. On its own initiative, the railroad extended elements of the agreements to the balance of its system to strengthen management oversight of its program of operational tests.

Most recently, on January 6, 2005, a Norfolk Southern Railway Company (NS) train collided with a standing train on a siding in Graniteville, South Carolina. That accident resulted in the breach of a tank car containing chlorine, and nine people died from inhalation of chlorine vapors. The NTSB determined that the probable cause of the accident was the failure of a train

crew to return a main line switch to its normal position. Hours later, the next train to traverse the main track was misdirected onto the wrong track, where it collided with a standing train. In response to the Graniteville accident, FRA acted immediately by issuing a formal Safety Advisory on January 10, 2005, strongly urging all railroads to adopt revised procedures to guard against such a human mistake. As a whole, railroads responded swiftly and favorably by adopting those recommendations.

Again, these three serious accidents were directly caused by general factors in the rail operating environment, e.g., track for Minot and human factors for Graniteville. Unfortunately, a result of each accident was the catastrophic release of a hazardous material. While FRA over the years has ordered hundreds of millions of dollars of tank car improvements and will not hesitate to do more when we have the requisite knowledge, the primary strategy for preventing catastrophic releases of hazardous materials is the prevention of accidents. FRA's goal is to address the specific factors that directly cause terrible accidents like the three discussed above, as well as to minimize and mitigate the effects of such accidents. Addressing those most prevalent direct causes of rail accidents will serve to make all forms of rail transportation safer. As discussed below, FRA has an aggressive and comprehensive action plan to address the root causes of such accidents and to examine and improve the integrity of tank cars used to transport hazardous materials.

#### **National Rail Safety Action Plan**

On May 16, 2005, DOT and FRA launched an aggressive and ambitious National Rail Safety Action Plan. The Action Plan lays out initiatives in a number of areas, including:

- Reducing human factor-caused train accidents;
- Improving track safety;
- Enhancing hazardous materials safety and emergency preparedness;
- Addressing the serious problem of fatigue among railroad operating employees;
- Better focusing FRA resources (inspections and enforcement) on areas of greatest safety concern; and
- Improving highway-rail grade crossing safety.

FRA has made substantial progress during the past year to successfully implement the various elements of the Action Plan. FRA continues to integrate the results of its oversight and research and development to foster the deployment and application of both new technologies and functional procedures by industry to prevent and minimize future accidents.

#### **Human Factors Initiatives, Including Steps to Prevent Human Factor-Caused Accidents through Technology**

##### *Development of Human Factors Rulemaking*

The Graniteville accident resulted from human error, and the Macdona accident is under review by the NTSB for an apparent human factor cause as well. Human factor-caused accidents constitute the largest category of train accidents, accounting for 37 percent of all train accidents

over the last five years. Some human factors are addressed squarely by FRA regulations. For example, FRA's regulations on alcohol and drug use by operating employees were the first such standards in American industry to incorporate chemical testing, and they have been very successful in reducing accidents resulting from substance abuse. FRA also has regulations on locomotive engineer certification, and we enforce the hours of service restrictions, which are wholly governed by statute. However, FRA has been concerned that several of the leading causes of human factor accidents are not presently covered by any specific Federal rule, and they can have serious consequences. These leading causes include improperly lined switches, leaving cars in a position that obstructs a track, and shoving rail cars without a person on the front of the move to monitor conditions ahead.

In May 2005, FRA asked its Railroad Safety Advisory Committee (RSAC) to develop recommendations for a new human factors rule to address the leading causes of human factor accidents. In February 2006, RSAC reported that good progress on a number of issues had been made; however, it was unable to reach a consensus recommendation. FRA thanked the members of RSAC for the guidance provided and is now drafting a notice of proposed rulemaking targeted for publication later this year. As discussed in the RSAC, this regulation will address core railroad operating rules governing the handling of track switches, leaving cars in the clear, and "protecting the point" of shoving movements.

#### Issuance of Emergency Order No. 24

In response to an increasing number of train accidents caused by hand-operated main track switches in non-signaled territory being left in the wrong position and the potential for catastrophic accidents, FRA issued Emergency Order No. 24 in October 2005. This emergency order mandates that railroads retrain and periodically test employees on switch operating procedures and that railroads require increased communication among crewmembers and dispatchers regarding the proper positioning and locking of this type of switch. A switch position awareness form must be maintained by each employee operating a switch to record when the switch was operated and when it was returned to the normal position (i.e., typically lined for the main track). This emergency order is expected to remain in place until a final rule regarding human factor-caused accidents is promulgated and becomes effective.

#### Launch of "Close Call" Pilot Research Project

FRA is working to better understand "close calls" (i.e., unsafe events that do not result in a reportable accident but could have done so). In March 2005, FRA completed an overarching Memorandum of Understanding (MOU) with railroad labor organizations and management to develop pilot programs to document close calls. In other industries such as aviation, adoption of close-call reporting systems that shield the reporting employee from discipline (and the employer from punitive regulatory sanctions) has contributed to major reductions in accidents. In August 2005, an MOU between FRA and the DOT Bureau of Transportation Statistics (BTS) was signed. The MOU stipulated that BTS will act as a neutral party to receive the close-call reports and maintain the confidentiality of the person making the report. In October 2005, a contract to evaluate the close-call data was awarded to Altarum Institute of Alexandria, Virginia. Four railroads have expressed interest in taking part in this project. Educational efforts are underway

to ensure that key stakeholders (local rail management and labor) at each potential site understand the purpose of the program and what would be required of them. Specifically, participating railroads will be expected to develop corrective actions to address the problems that may be revealed. Aggregated data from these projects may also provide guidance for program development at the national level. An Implementing MOU involving the first site is under discussion, and data collection is expected to begin in the near future.

#### *Addressing Fatigue*

Fatigue has long been a fact of life for many railroad operating employees, given their long and often unpredictable work hours and fluctuating schedules. The hours of service law sets certain maximum on-duty periods (generally 12 hours for operating employees) and minimum off-duty periods (generally 8 hours, or if the employee has worked 12 consecutive hours, a 10-hour off-duty period is required). FRA's knowledge of industry employee work patterns and the developing science of fatigue mitigation, combined with certain NTSB investigations indicating employee fatigue as a major factor, have persuaded FRA that fatigue is very likely at least a contributing factor in a significant number of human factor-caused accidents. FRA is conducting applied research aimed at validating and calibrating a fatigue model that can be used to more precisely determine the role of fatigue in human factor-caused accidents and improve crew scheduling practices by evaluating the potential for fatigue given actual crew management practices. When the model is properly validated, it will be made available to railroads and their employees as the foundation for developing crew scheduling practices based on the best current science. A final report is targeted for release in August 2006.

#### *Fostering Positive Train Control (PTC)*

PTC is an advanced train control technology that can prevent train collisions with automatic brake applications. It also provides capabilities such as automatic compliance with speed restrictions and enhanced protection of maintenance-of-way workers.

FRA's final rule enabling PTC became effective on March 7, 2005. The rule is a performance standard for PTC systems that railroads may choose to install. It does not require that PTC systems be installed. Rather, FRA is promoting the implementation of PTC by sponsoring development of PTC technologies through partnerships with States and railroads; and by helping to provide the Nationwide Differential Global Positioning System (NDGPS), a network of beacons that provides corrections and integrity monitoring to improve the accuracy and reliability of satellite-based positioning. NDGPS will play an important role in advanced PTC applications.

Today, Amtrak and other Northeast Corridor railroads have implemented a form of PTC that supports passenger train speeds up to 150 miles per hour. This system works well; however, it is expensive to operate and maintain and does not offer some operational efficiencies that may be available with newer PTC systems. Therefore, this system does not appear to be appropriate for use outside the Northeast Corridor.

Several freight railroads are exploring less complex “overlay” systems with a goal of increasing safety and improving operating efficiencies. The most highly developed of those undergoing testing is the Electronic Train Management System (ETMS) on the BNSF. CSX Transportation, Inc. (CSX) is working on a Communications Based Train Management System, and UP has recently announced an ambitious set of pilot projects that will use the same core technology being used by BNSF and CSX. In contrast, NS has indicated that it will proceed with a fully “vital” technology. The Alaska Railroad Corporation is also working towards implementing a PTC system on its entire territory.

A significant challenge for FRA and the railroads in developing such systems for use in the contiguous 48 States is to ensure that they are interoperable (that is, locomotives from railroad “A” having one kind of PTC system can operate seamlessly on railroad “B” which has a different PTC system).

*Identification of Technology to Improve Safety in Dark (Non-signaled) Track Territory*

In November 2005, FRA partnered with BNSF in a \$1 million Switch Point Monitoring System pilot project. The main objective of the project is to develop a low-cost system that electronically monitors, detects, and reports a misaligned switch on the mainline track located in dark, or non-signaled, track territory. Switch position monitoring units are now in place at 49 switch locations on the railroad’s Avard Subdivision in Oklahoma. If a switch is left other than in the normal position, the dispatcher at the railroad’s operations center is alerted, and corrective action is taken to protect train movements. A final report is expected in August 2006. Along with the planned human factor rule, this new switch monitoring system may prevent future train collisions and derailments like the Graniteville accident.

**Track Safety Initiatives**

*Enhancement of Track Defect-Detection Capability and Procedures*

The Minot derailment resulted from track defects. Track-caused accidents are the second-largest category of train accidents, comprising 34 percent of all train accidents over the last five years. Some of the leading causes of track-caused accidents are very difficult to detect during normal railroad inspections. Broken joint bars, for example, are a leading cause, but the kinds of cracks in those bars that foreshadow a derailment-causing break are very hard to spot with the naked eye. Similarly, broken rails account for some of the most serious accidents, but the internal rail flaws that lead to many of those breaks can be detected only by specialized equipment.

To improve track safety, FRA is developing an automated, high-resolution video inspection system for joint bars that can be deployed on a hi-rail vehicle to detect visual cracks in joint bars without having to stop the vehicle. In October 2005, a prototype system that inspects joint bars on both sides of each rail was successfully demonstrated. Testing showed that the high-resolution video system detected cracks that were missed by the traditional visual inspections. In 2006, the system is being enhanced with new developments to improve the reliability of joint bar detection and to add capabilities to include Global Positioning System

(GPS) coordinates for each joint for future inspection and identification. Additionally, software is being developed and tested to automatically scan the images, detect the cracked joint bar, and send a message to the operator with an image of the broken joint bar.

FRA is also addressing joint bar cracks on the regulatory front. On November 2, 2005, FRA issued an interim final rule (IFR) requiring track owners to develop and implement a procedure for the detailed inspection of rail joints in continuous welded rail (CWR) track. Among other things, track owners must perform visual, on-foot, periodic inspections of joints in CWR track and keep records of these inspections. Further, track owners are required to identify joint bar cracks as well as inspect for joint conditions that can lead to the development of joint bar cracks. Based on the data that FRA will collect through implementation of this rule, FRA will establish a program to review joint bar crack data. Finally, the IFR encourages the development and adoption of automated methods to improve the inspection of rail joints in CWR track. This rulemaking is a direct result of a Congressional mandate in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) and of NTSB recommendations arising out of various accidents involving cracked joint bars. Currently, FRA is reviewing public comments about this IFR in conjunction with the RSAC, and anticipates issuing a final rule later this year.

#### *Deployment of Two Additional Automated Track Inspection Vehicles*

Subtle track geometry defects, such as rails being uneven or too wide apart, are difficult to identify during a typical walking or hi-rail inspection. That is why FRA has developed automated track inspection and research vehicles to improve the ability to identify problems, and ensure they are repaired, before a train accident occurs. In May 2005, FRA added the T-18 vehicle to its fleet. Two more inspection vehicles with similar technology are currently being constructed (one that is self-propelled and one that is towed). They are expected to be delivered in September 2006 and January 2007. Once fully operational, they will allow FRA to inspect nearly 100,000 track-miles each year, tripling the number of miles currently inspected. This additional capability will permit FRA to inspect more miles of major hazardous materials and passenger routes, while also having the ability to follow up more quickly on routes where safety performance is substandard.

#### **Rail Transport of Hazardous Materials: The Safety Record and Safety Initiatives**

As noted above, the rail industry's record on transporting hazardous materials is very good. The industry transports nearly two million shipments of hazardous materials annually, ordinarily without incident. However, the Graniteville accident in 2005, which alone involved nine deaths as the result of a release, demonstrates the potential for serious consequences from train accidents. It is also important to note that although train accidents only rarely result in releases, non-accident releases (NARs), such as releases from stationary tank cars in rail yards or chemical facilities, are a continuing problem. In 2004, for example, there were 692 NARs from tank cars. The primary cause of NARs is improper inspection and securement of tank cars by shippers (e.g., loose closures, open valves, defective gaskets) in violation of the Federal Hazardous Materials Regulations (HMR). Allow me to discuss the HMR and DOT's role in promulgating and enforcing them for the safe transportation of hazardous materials by rail.

The HMR are designed to achieve three goals:

- To ensure that hazardous materials are packaged and handled safely during transportation;
- To provide effective communication to transportation workers and emergency responders of the hazards of the materials being transported; and
- To minimize the consequences of an accident or incident should one occur.

Under the HMR, hazardous materials are categorized by analysis and experience into hazard classes and packing groups based upon the risks they present during transportation. The HMR specify appropriate packaging and handling requirements for hazardous materials, and require a shipper to communicate the material's hazards through the use of shipping papers, package marking and labeling, and vehicle placarding. The HMR also require shippers to provide emergency response information applicable to the specific hazard or hazards of the material being transported. The HMR also mandate training requirements for persons who prepare hazardous materials for shipment or who transport hazardous materials in commerce. The DOT Pipeline and Hazardous Materials Safety Administration (PHMSA) is responsible for promulgating the HMR, and FRA is responsible for enforcing the HMR in the railroad industry. Both agencies work cooperatively in carrying out and assisting each other with their responsibilities, combining their expertise and resources to promote the safe transportation of hazardous materials by rail.

Reducing NARs and the accidental release of hazardous materials in the rail industry is being advanced in particular by the concerted efforts of FRA's hazardous materials field forces, their diligent follow-up on hazardous materials releases, and FRA's active enforcement of the HMR against persons who fail to properly package hazardous materials for rail transportation. In this effort, FRA is utilizing the full array of our enforcement tools—from education and warnings, to safety advisories and orders, to civil penalties and recommendations for criminal prosecution. The agency is also actively engaged in activities intended to reduce the likelihood that a tank car may be breached if an accident does occur, complementing our effort to reduce the likelihood of train accidents. Realizing that we are still a ways off from preventing all accidents, FRA has developed initiatives to ensure that emergency responders will be fully prepared to minimize the loss of life and damage when an accident or release does occur.

*Ensuring Emergency Responders Have Access to Key Information About Hazardous Materials Transported by Rail*

Emergency responders presently have access to a wide variety of information regarding hazardous materials transported by rail. Railroads and hazardous materials shippers are currently subject to the hazard communication requirements of the HMR, as noted earlier. In addition, these industries work through the American Chemistry Council's Transcaer® (Transportation Community Awareness and Emergency Response) program to familiarize local emergency responders with railroad equipment and product characteristics. PHMSA publishes the *Emergency Response Guidebook*, with the intention that it may be found in virtually every fire and police vehicle in the United States.

In March 2005, with FRA encouragement, the Association of American Railroads (AAR) amended its Recommended Operating Practices for Transportation of Hazardous Materials (Circular No. OT-55-H) to expressly provide that local emergency responders, upon written request, will be provided with a ranked listing of the top 25 hazardous materials transported by rail through their community. This is an important step to allow emergency responders to plan, and better focus their training, for the type of rail-related hazardous materials incident that they could potentially encounter.

In July 2005, again with FRA encouragement, CSX and CHEMTREC (the chemical industry's 24-hour resource center for emergency responders) entered into an agreement to conduct a pilot project to see if key information about hazardous materials on the train could be more quickly and accurately provided to first responders in the crucial first minutes of an accident or incident. The project is designed so that if an actual hazardous material rail accident or incident occurs, CHEMTREC watchstanders, who interact with emergency response personnel, will have immediate access to CSX computer files regarding the specific train, including the type of hazardous materials being carried and their exact position in the train consist. FRA is also working through the AAR to encourage the other major railroads to participate in a similar project.

#### Improving Tank Car Integrity through Research and Development

PHMSA's and FRA's efforts to improve tank car survivability have a long and effective history. Working with industry, all tank cars carrying hazardous materials now have top and bottom shelf couplers, and, as appropriate, tank cars are equipped with head shields, thermal protection, and skid protection for protruding bottom outlets. Tank cars carrying specific product groups, such as toxic inhalation hazard materials (TIH) and other particularly hazardous substances, are subject to additional requirements which become fully effective July 1, 2006, after a 10-year phase-in period. In addition, because tank cars are built to standards of high quality and are required to be inspected and re-qualified periodically, DOT has instituted requirements for the maintenance of tank cars using qualified technicians employing qualified procedures and documenting their efforts in a standard format for effective future reference and analysis.

We continue to look for other ways to improve tank car survivability. Prior to the August 2005 enactment of Section 9005 of SAFETEA-LU, FRA had initiated tank car structural integrity research stemming from the circumstances of the 2002 Minot derailment. Current research involves a three-step process to assess the effects of various types of train accidents (e.g., a derailment or collision) on a tank car. The first phase is development of a physics-based model to analyze the kinematics of rail cars in a derailment. The second phase is development of a valid dynamic structural analysis model; and the third phase is an assessment of the damage created by a puncture and entails the application of fracture mechanics testing and analysis methods. DOT's Volpe Center is doing the modeling work now, and FRA will dovetail this ongoing research with the requirements of Section 9005.



In addition, FRA intends to evaluate an explosive-resistant coating that is being used to enhance the armor protection of military vehicles in Iraq for potential use on tank cars to reduce the likelihood of puncture. The material also has a self-sealing property that could be useful to seal a hole in a tank car and mitigate the severity of incidents.

*Improving the Safety of Railroad Tank Car Transportation of Hazardous Materials through a Joint PHMSA-FRA Review of Design and Operational Factors*

In response to the recent accidents discussed above, as well as other rail accidents resulting in tank car breaches and loss of product, and concerns expressed by the industry and the public, PHMSA and FRA have initiated a comprehensive review of design and operational factors that affect rail tank car safety. As part of an effort to solicit public involvement in this ongoing effort, PHMSA and FRA held a public meeting on May 31 and June 1 to address the safe transportation of hazardous materials in tank cars. The meeting provided interested parties an opportunity to comment on the safety of rail tank car transportation of hazardous materials. PHMSA and FRA regularly work closely with tank car manufacturers, shippers, and railroads, to gather expertise and input into the development of tank car standards. FRA is in the process of opening a public docket to receive further information and comment on this issue. FRA also plans to make a transcript of the meeting available for public review in the docket.

In conducting this comprehensive review, the two agencies will utilize a risk management approach to identify ways to enhance the safe transportation of hazardous materials in tank cars, including tank car design, manufacture, and requalification; operational issues such as human factors, track conditions and maintenance, wayside hazard detectors, and signal and train control systems; and emergency response. This initiative with PHMSA complements FRA's other ongoing safety efforts discussed above.

A valuable source of tank car expertise lies in the combined resources of the members of the AAR Tank Car Committee (TCC) and its associated working groups. The TCC is recognized within the HMR as the body exercising ministerial approval of railroad tank car and service equipment designs. The working groups are comprised of a representative cadre of tank car engineers, railroad operating experts, shippers, and fleet owners. At any one time they are considering many potential safety improvements for tank cars. FRA has found that the input of all members of the TCC is invaluable in informing FRA's safety decisions. FRA participates within the TCC and is active in many of the working groups.

A major assignment now before the TCC is the development of recommendations to satisfy a charge by top railroad executives to investigate ways to improve the tank car itself. Born out of the significant accidents at Minot, Macdona, and Graniteville, as described above, the directive to the TCC was to create a tank car design that would reduce the potential for a release from an accident by 65 percent. This effort relies heavily on a risk analysis prepared by the University of Illinois. In developing its analysis, the University of Illinois relied heavily on the claims stemming from an engineering analysis conducted by Trinity Industries, Inc., a major builder of tank cars and other transportation equipment, related to a new tank car design developed by Trinity (the Trinity Car). While the risk analysis uses sound scientific methods, several assumptions were used that cause concern. Although FRA applauds the industry's

efforts, FRA believes that achieving a 65 percent reduction in the potential for a release from an accident is an unrealistic goal, especially when directed at only one aspect of hazardous materials transportation safety—the tank car transporting the hazardous material. FRA has made this concern known to the AAR, but continues to support its efforts in seeking safety improvements that provide greater protection for the American public.

Although the Trinity Car design differs in several areas from the Federal tank car safety standards, the car design could yield safety benefits. In order to permit the manufacture and sale of this new design, FRA prepared an extensive evaluation of the car design and the data submitted in support of this design and referred that evaluation to PHMSA. While the design raises important questions, PHMSA and FRA believe that, given operational restrictions and inspection requirements imposed by a short-term variance granted by PHMSA, the car can provide a valuable tool for data collection and innovation analysis. PHMSA's short-term variance, however, was issued based on a finding that the Trinity car used under the specified conditions provides an equivalent level of safety to current DOT specification cars.

As is appropriate for an early data collection and evaluation effort, cost-benefit analysis is not yet underway for the use of the Trinity Car across the industry. It is too early to predict whether the structural integrity research, the data gathered through use of the Trinity Car, or any other ongoing project will lead to regulatory action. Any rulemaking on tank car improvements will require comprehensive risk and cost-benefit analyses to ensure that any benefit gained by any improvement does not unduly burden rail carriers, shippers, and consumers with exorbitant costs as a result. The success of long phase-in periods in past rulemakings requiring head shields, thermal protection, shelf-couplers, bottom-outlet protection, and other changes shows that tank car safety is best achieved through deliberate action rather than “overnight” mandates.

#### Section 333 Conference

Section 333 of title 49 of the United States Code authorizes the FRA Administrator, as delegate of the Secretary of Transportation, to convene conferences at the request of one or more railroads to address coordination of operations and facilities of rail carriers in order to achieve a more efficient, economical, and viable rail system. Persons attending a section 333 conference are immune from antitrust liability for any discussions at the conference, and can also receive immunity for any resulting agreements that receive FRA approval.

FRA has granted a request by the AAR and the American Chemistry Council to convene a section 333 conference to discuss ways to minimize security and safety risks flowing from the transportation by rail of TIH materials. FRA is working with the parties on developing an agenda for the conference. The conference will provide the railroads and chemical manufacturers and shippers with the limited antitrust immunity they need to meet and discuss approaches to reduce the amount of TIH materials moved by rail, and to enhance the safety and security of TIH materials that are moved. FRA, PHMSA, and representatives from the Department of Justice, the Federal Trade Commission, the Transportation Security Administration, and the Surface Transportation Board (STB) will assist the parties in their discussions.

Initially, efforts of the conference will be focused on chlorine and anhydrous ammonia rail transport because they represent over 80 percent of all TIH rail shipments. FRA anticipates seeking public input on any agreements proposed by the parties before they are approved by FRA. In some instances, the projects agreed to at the conference may need the approval of the STB in order to be implemented.

#### **Conclusion**

FRA's approach to enhancing the safety of tank cars and the transportation of hazardous materials by rail tank cars is multi-faceted. In combination, the comprehensive safety assurance and hazard mitigation strategies that I have discussed are providing FRA an effective and cost-based decision-making process to collect information that we believe will make rail operations and tank car designs of the future safer for the public and the rail transportation industry. We look forward to discussing strategies and priorities for moving forward towards this end, and we thank the Subcommittee for its willingness to examine this complex issue.

STATEMENT OF  
THE HONORABLE CORRINE BROWN  
SUBCOMMITTEE ON RAILROADS  
HEARING ON  
“CURRENT ISSUES IN RAIL TRANSPORTATION OF HAZARDOUS MATERIALS”  
JUNE 13, 2006

I want to begin by thanking the Chairman for holding this important hearing. I appreciate the work that you have undertaken to discuss in a public forum the safety of rail transportation of hazardous materials.

According to the Department of Transportation, rail accidents involving hazardous materials are decreasing. That's the good news.

Unfortunately, the bad news is that fatalities increased in 2005, and major injuries resulting from rail transportation of hazardous materials are the highest among all modes of transportation in each of the past 10 years.

The accidents in South Carolina, Texas, and North Dakota, and the rail bombings in Madrid and London are a stark reminder to this Congress that we need to do all we can to strengthen rail safety. We need to make sure that our laws and regulations are effective, that they are being

enforced, and that we are addressing the right problems. Most importantly, we need to make sure our communities, our First Responders, and our rail workers are safe. I believe a good start would be reauthorizing the Federal Railroad Administration.

The NTSB has made some excellent recommendations in their accident reports, including: strengthening hours of service; improving worker training, reducing speeds in populated communities, positioning tank cars to

reduce vulnerability, providing advanced notice to switch operating workers, and providing train crews with proper emergency equipment.

I do understand the pressures being faced by the rail industry, but I get very concerned with any discussion that would reduce the scope of the Common Carrier Obligation or limit an individuals access to fair compensation in an accident.

The Common Carrier Obligation needs to be taken very seriously by both the railroads and this Committee. The federal government gave the rail industry the land, the resources, and the equipment to build the nations railroads, and I believe it is only fair that the railroads fulfill their obligation to serve the public.

There is no question in my mind that the Railroads, Chemical Companies, and regulating agencies need to work together to come up with a fair and equitable solution to this problem that



protects both the interests of the railroads and the safety of the American public.

Before I consider any solution to this issue, I'd like to see some progress – beyond just research and development of new technologies – in making rail operations safer. And I'd like the FRA and the railroads to start with the NTSB recommendations, at the very least.

Thank you, Mr. Chairman. I look forward to hearing from our distinguished panelists.

## **National Transportation Safety Board**



**Bob Chipkevich**  
**Director**  
**Office of Railroad, Pipeline and Hazardous**  
**Materials Investigations**

**Testimony of Bob Chipkevich, Director  
Office of Railroad, Pipeline and Hazardous Materials Investigations  
National Transportation Safety Board  
before the  
U.S. House of Representatives  
Committee on Transportation and Infrastructure  
Subcommittee on Railroads  
June 13, 2006**

Good morning Chairman LaTourette, Ranking Member Brown, and Members of the Subcommittee. My name is Bob Chipkevich. I am the Director of the National Transportation Safety Board's Office of Railroad, Pipeline and Hazardous Materials Investigations. The Safety Board's Acting Chairman, Mark Rosenker, asked me to represent the Board today to discuss current issues on the transportation of hazardous materials by railroad. The Chairman is unable to be here today because the Board has a previously scheduled Sunshine Act meeting to deliberate on the probable cause of a head-on collision between two BNSF Railway freight trains near Gunter, Texas, and that meeting is on-going at this time.

Following catastrophic railroad accidents in the 1970s, safety mandates, such as shelf couplers, head shields, and thermal protection, improved the performance of tank cars during derailments. Additional improvements have included enhanced accident protection for valves and fittings and requirements that specific hazardous materials, such as environmentally harmful substances, be transported in stronger tank cars.

However, despite these improvements, railroad accidents in the past five years, such as those in Minot, North Dakota; Macdona, Texas; and Graniteville, South Carolina have raised new concerns about the safety of transporting hazardous materials in railroad tank cars. The derailment of a Canadian Pacific Railway freight train near Minot, North Dakota, on January 18, 2002, resulted in the catastrophic failure of five tank cars. Each tank car held almost 30,000 gallons of anhydrous ammonia, a poisonous liquefied gas. The nearly instantaneous release of 146,700 gallons of anhydrous ammonia resulted in a toxic vapor plume that was approximately 300 feet thick and 5 miles long. An estimated 11,600 residents of Minot were affected by the toxic plume. One resident was fatally injured, 11 were seriously injured and 322 others sustained minor injuries. Damages and environmental clean-up activities exceeded \$10 million dollars. Another 74,000 gallons of anhydrous ammonia were released from six additional damaged tank cars over a five-day period following the derailment.

On June 28, 2004, a westbound Union Pacific Railroad freight train struck an eastbound BNSF Railway freight train as the BNSF train entered a siding near Macdona, Texas. As a result of the collision, a tank car loaded with liquefied chlorine was derailed and punctured. The liquefied chlorine, which is poisonous-by-inhalation, escaped from the punctured tank car and immediately vaporized into a cloud of chlorine gas. The conductor from the Union Pacific train and two residents, who lived nearby, died as a result of chlorine gas inhalation.

The accident in Graniteville, South Carolina, occurred on January 6, 2005. A northbound Norfolk Southern Railway Company freight train, while traveling through Graniteville, encountered an improperly lined switch that diverted the train from the main track onto an industry siding, where it struck an unoccupied, parked train head-on. As a result of the collision, a tank car filled with liquefied chlorine was punctured, and a chlorine vapor cloud filled the area. Nine people died as a result of chlorine gas inhalation. Approximately 554 people complained of respiratory difficulties and were taken to local hospitals. Of these, 75 were admitted for treatment. An estimated 5,400 residents within a 1-mile radius of the accident site were evacuated for several days.

In the Minot accident investigation report, the Safety Board concluded that the low fracture toughness of the steels used for the tank shells of the five cars that catastrophically ruptured contributed to their complete fracture and separation. The Board issued four safety recommendations to the Federal Railroad Administration (FRA):

- Conduct a comprehensive analysis to determine the impact resistance of the steels in the shells of pressure tank cars constructed before 1989;
- Based on this analysis, rank the pre-1989 pressure tank cars according to risk and implement measures to eliminate or mitigate their risk;
- Validate the predictive model being developed to quantify the dynamic forces acting on railroad tank cars under accident conditions; and
- Develop and implement fracture toughness standards for steels and other materials of construction for pressure tank cars used to transport liquefied compressed gases.

We believe that the development of the predictive model and implementation of fracture toughness standards go hand-in-hand and will lead to tank car designs that can provide improved structural integrity and puncture resistance. The FRA has been responsive to these safety recommendations.

In the Graniteville accident investigation, the Safety Board again examined tank car crashworthiness issues. The Board found that the steel in the tank shell of the punctured chlorine car had a fracture toughness that was significantly greater than the fracture toughness of the ruptured tank cars in Minot. The higher fracture toughness in the Graniteville tank car contributed to the relatively quick arrest of the crack even though there was brittle fracture in its outer portions. Because of the improved properties of the steel and increased wall thickness, the Graniteville tank car was among the strongest tank cars currently in service. However, the Board concluded that, as shown in the Graniteville accident, even the strongest tank cars in service can be punctured in accidents that involve trains operating at moderate speeds.

The Safety Board believes that modeling accident forces and applying fracture toughness standards, as recommended in the Minot accident report, will improve the crashworthiness of tank cars. However, because of the time that it will take to design and construct improved tank cars, the Board believes that the most expedient and effective means to reduce the public risk

from the release of highly poisonous gases in train accidents is for railroads to implement operational measures that will minimize the vulnerability of tank cars transporting these products. Therefore, the Board recommended that the FRA:

- Require railroads to implement operating measures, such as positioning tank cars toward the rear of trains and reducing speeds through populated areas, to minimize impact forces from accidents and reduce the vulnerability of tank cars transporting chlorine, anhydrous ammonia, and other liquefied gases designated as poisonous by inhalation.

The Macdona accident investigation is nearing completion and staff expects to present a report to the Safety Board next month. Among other things, the Macdona report will examine FRA's progress toward implementation of the safety recommendations issued as a result of the Minot and Graniteville accident investigation reports.

Improvements in the design and construction of tank cars are needed. However, the tank car failures I have discussed today are the consequences of train derailments and train-to-train collisions. Therefore, reducing train derailments and collisions can also reduce the risk of catastrophic tank car failures.

During the past five years, the Safety Board has found that human performance failures have resulted in numerous railroad accidents that could have been prevented with a safety redundant system, such as positive train control. Examples of these failures include: missed train control signals, over-speed derailments, and the diversion of trains into industrial sidings because main line track switches were left in the wrong positions. A recommendation for a requirement for positive train control systems has been on the Safety Board's List of Most Wanted Transportation Safety Improvements since 1990.

Finally, Safety Board accident investigations have also found that inadequate track maintenance and inspections have been causal to several serious accidents, including the anhydrous ammonia accident in Minot, North Dakota and Amtrak derailments in Flora, Mississippi; Kensington, Maryland; Crescent City, Florida; and, Nodaway, Iowa. Currently there are 7 open safety recommendations to the FRA related to improving track safety. The Safety Board has recommended that the FRA:

- Require railroads to conduct inspections to identify cracks in rail joint bars, and to establish a program to periodically review data from those inspections;
- Require railroads to conduct ultrasonic or other appropriate inspections to ensure that rail used to replace defective segments of existing rail is free from internal defects; and
- Improve FRA track inspector procedures.

Any train derailment can be serious. When trains transporting hazardous materials derail, however, the consequences can quickly change from serious to catastrophic. Greater attention to

track inspections and maintenance, and positive train control by the railroads and the FRA can help reduce the potential for catastrophic failure of tank cars transporting hazardous materials.

Mr. Chairman, this completes my statement, and I will be happy to respond to questions at the appropriate time.



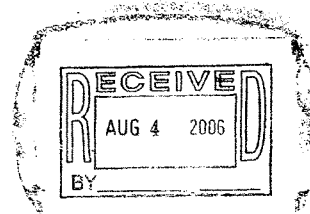
Office of the Chairman

**National Transportation Safety Board**

Washington, D.C. 20594

AUG 03 2006

Honorable Corrine Brown  
Ranking Democratic Member  
Railroads Subcommittee  
Transportation and Infrastructure Committee  
2251 Rayburn House Office Building  
Washington, D.C. 20515



Dear Congresswoman Brown:

Thank you for your letter of July 7, 2006, to Mr. Robert Chipkevich, Director of the Office of Railroad, Pipeline and Hazardous Materials Investigations, regarding questions for the record from Congresswoman Eddie Bernice Johnson. The questions relate to the hearing held on Tuesday, June 13, 2006, on "Current Issues in Rail Transportation of Hazardous Materials." Mr. Chipkevich was a witness for the National Transportation Safety Board (NTSB) at that hearing.

Enclosed please find the NTSB's responses to Congresswoman Johnson's questions for the record.

If you need further information, please do not hesitate to call me at (202) 314-6035, or Ms. Cheryl McCullough, Government and Industry Affairs Liaison, at (202) 314-6121.

Sincerely,

Mark V. Rosenker  
Acting Chairman

Enclosure

**June 13, 2006**  
**Subcommittee on Railroads**  
**Hearing on**  
**“Current Issues in Rail Transportation of Hazardous Materials”**

**Response to Questions from Congresswoman Eddie Bernice Johnson**

**QUESTION:** Mr. Chipkevich, I understand that the rail industry is likely moving towards implementing Positive Train Control technology - - where does this movement stand from your perspective? Which projects are showing the most promise?

**RESPONSE:** The National Transportation Safety Board has investigated 28 railroad and 3 rail transit accidents involving train collisions and over-speed derailments since 2001. Most of these accidents occurred after train crews failed to comply with train control signals, failed to follow operating procedures in non-signalized (dark) territories, or failed to comply with other specific operating rules. Positive train control systems have great potential to reduce the number of serious train accidents by providing safety-redundant systems to protect against human failures. Positive train control has been on the Safety Board’s most wanted list of transportation safety improvements for 16 years.

Several Class I railroads are working on the development of train control systems that provide safety-redundant features needed to prevent accidents when human performance failures occur. Amtrak has installed a transponder-based train control system, known as the Advanced Civil Speed Enforcement System, on the Northeast corridor that enforces speed and stop instructions for its passenger trains, and a system known as the Incremental Train Control System on track it owns between Chicago and Detroit. The BNSF Railway is developing a train control system, known as the Electronic Train Management System, that uses a satellite and radio-based system that is being designed to enforce speed and stop instructions for its trains, protect train movements in dark territory from switches that are misaligned, and provide protection for maintenance-of-way workers. I understand that the BNSF has filed an application with the Federal Railroad Administration (FRA) for approval to move forward with implementation of its system in specific locations. Both Norfolk Southern Railway and CSX Transportation have informed the Safety Board of activities that they are working on to develop positive train control systems also, but I do not believe that either has filed an application with the FRA for review.

**QUESTION:** Mr. Chipkevich, Texas is a leading state in chemical production. Trains transport in excess of 40 million tons of chemicals from plants and deliver 25 million tons of chemicals to Texas facilities. With this in mind, where does the state rank in terms of hazmat accident rates?



**RESPONSE:** Railroads are required to file reports with the FRA for all train accidents that meet specific thresholds. The FRA uses these reports to prepare accident and safety statistics and, therefore, would be the appropriate agency to respond to your question.

**COMMITTEE ON TRANSPORTATION & INFRASTRUCTURE**  
**Subcommittee on Railroads**

**"Current Issues in Rail Transportation of Hazardous Materials"**

**June 13, 2006**  
**10:00 a.m.**  
**Room 2167, Rayburn House Office Building**

Mr. Chairman:

Thank you for calling today's hearing to enable us to  
examine the transportation of hazardous materials by rail.

According to the U.S. Census Bureau's 2002 Commodity  
Flow Survey, there were nearly 110 million tons of  
hazardous materials shipped in the United States by rail in  
that year. Approximately 90% of these shipments were  
comprised of chemicals and allied commodities.

While there are many issues in the transportation of hazardous materials by rail that require attention – including the safety of tank cars – I want to focus my remarks today on three specific issues in hazardous materials transportation that I believe are among the most urgent.

First, an overarching concern with all hazardous materials transportation is the issue of routing. Urban areas in particular are concerned that the transportation of dangerous materials – particularly those that are toxic or fatal if inhaled – through cities exposes residents to unnecessary risks that could be reduced if the materials were routed through less populated areas.

This concern has lead several urban areas – including my city of Baltimore – to consider legislation to ban the transport of ultra hazardous materials in their jurisdictions.

Our nation needs a comprehensive national study on the issue of routing to determine what routes allow the safest transportation of hazardous materials and how feasible a national routing system might be.

A second issue that requires attention is the physical security of our rail networks and particularly of rail yards. Rail tracks and rail yards are now widely used as sites of “storage in transit,” and frequently, the only thing separating a community from a parked train hauling hazardous materials is a flimsy chain link fence.

It was announced last year that the federal government will implement a pilot program to enhance security on approximately 7 miles of track around Washington, DC at a cost of about \$9 million. This was, I believe, an implicit admission that perimeter security along that stretch of track in our nation's capital was not as strong as it could be. If such improvements were needed in DC, I am concerned by what perimeter security improvements may be needed in areas that are less visible and less sensitive.

Finally, as the representative of a city that experienced a terrible fire in a railroad tunnel in 2001 when a tank car was punctured in a derailment and its flammable contents ignited, I believe we must pay closer attention to ensuring both the safety and security of tunnels and bridges along our rail network.

To that end, I have joined Chairman Young and Ranking Member Oberstar in asking the Government Accountability Office to examine the efforts made to date by the Departments of Homeland Security and Transportation to assess the unique vulnerability of these pieces of infrastructure.

Mr. Chairman, I have long argued that we need a comprehensive approach to hazardous materials transportation that encompasses all materials, all modes, and all government entities involved in regulating some aspect of this transportation. For that reason, I authored H.R. 909, which would create a Cooperative Research Program for Hazardous Materials Transportation.

SAFETEA-LU's Section 7131, which incorporates some of the elements of H.R. 909, requires the Secretary of the Department of Transportation to produce a study on the need for this cooperative research program and to conduct 9 multi-modal studies on hazardous materials transportation. These are important first steps and I urge the DOT to move as quickly as possible to implement these provisions.

I look forward to hearing the insights offered by today's witnesses.

Thank you and I yield back.



Testimony of

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Before the  
Subcommittee on Railroads  
of the  
Committee on Transportation and Infrastructure

*"Current Issues in Rail Transportation of Hazardous Materials"*

June 13, 2006



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Mr. Chairman, thank you for calling today's hearing on a subject of great importance both to the chemistry sector I represent and the nation at large. And thank you too for this opportunity to share our sector's views with you and the members of this Subcommittee.

I am Marty Durbin, Managing Director of Federal Legislative Affairs with the American Chemistry Council ("ACC"). ACC is the trade association representing the companies that make the chemicals that make modern life possible. Today, I will speak about the importance of safely moving hazardous material by rail, and how we can work together to continuously improve that system.

Products supplied by the chemistry sector are essential in manufacturing, agriculture, energy, transportation, technology, communications, health, education, defense, and virtually every aspect of our lives. Basic industrial chemicals are the raw materials for thousands of other products including plastics, water treatment chemicals, detergents, pharmaceuticals and agricultural chemicals. These applications include medicines and medical technologies that save our lives, computers that expand our horizons, foods we eat, water we drink, cars we drive, homes in which we live, and clothes we wear.

Our \$550 billion dollar industry employs more than one million people in all 50 states, and accounts for 10 percent of all US merchandise exports. In fact, more than 96% of all manufactured goods are directly touched by chemistry.

Chemicals are essential for the life of the nation, and Congress has wisely established a comprehensive, national, hazardous material transportation system, which is administered by the U.S. Department of Transportation ("DOT"). The goal of that system is to ensure that chemicals and other hazardous materials are delivered safely and reliably. The goal is not to prevent their movement.

Turning specifically to the subject of today's hearing, I want to emphasize that rail transportation is critical to ACC's membership and to all of the industries and people who depend on us. While there have been tragic hazardous materials rail incidents in the past few years, rail remains a remarkably safe way to ship hazardous materials. And ACC's member companies are committed to continuous safety improvement – not only in transportation of our products, but also in all other aspects of their business.

Through ACC's Responsible Care® initiative, member companies have committed to implement a set of goals and guidelines that go above and beyond federal regulation on health, safety, security and the environment. Our commitment to continuous safety improvement naturally includes transportation. And a cornerstone of this effort is our focus on training for our operational personnel and those who are involved with all aspects of transportation and distribution.

I'd like to highlight some of our activities:

- For almost 35 years, ACC has operated CHEMTREC® (**Chemical Transportation Emergency Center**), a 24/7 hotline for emergency responders from the public and private sectors that provides crucial information and assistance for transportation incidents involving chemicals and hazardous substances.
- In the 1980s, ACC members, the railroads and other transportation partners developed TRANSCAER® (**Transportation Community Awareness Emergency Response**), a voluntary national outreach effort that helps communities prepare for and respond to possible hazardous material transportation incidents.
- ACC holds a seat on the Tank Car Committee (“TCC”) of the Association of American Railroads (“AAR”). TCC has a mandate from DOT to evaluate tank car design and specifications from the perspective of furthering safety. For many years ACC has found TCC to be an effective forum in which this important risk-management factor has been addressed in a collaborative and purposeful manner. We do, however, have concerns about the manner in which TCC is currently looking at car designs for two specific products.
- ACC is pleased to have been added recently as a voting member of DOT’s Railroad Safety Advisory Committee.

Hazardous materials transportation safety – *the avoidance of accidents and accidental releases of hazardous materials* – is a primary focus for ACC, our member companies, the broader chemistry sector, our transportation partners and the emergency responders with whom we work every day. Together, we have invested billions of dollars in training, systems, technology and tank car safety and we will continue to do so in the future. Hazardous materials transportation safety is good business.

Experience, engineering science and common sense teach us that in the rail mode, hazardous materials safety is the result of many interrelated factors including:

- Overall safety of rail operations, including track conditions and the condition of the associated rail infrastructure such as signaling (“dark territory”).
- Placement of tank cars within trains, and their coupling to other cars.
- Training, supervision and staffing of train crews to ensure operational safety.
- Ongoing inspections of equipment.
- Proper use of appropriate cars for the movement of specific hazardous materials.
- Design and construction of tank cars.

Let me particularly address the training and staffing issues. As customers of rail service, we are concerned about testimony presented by representatives of rail labor unions at the recent DOT hazardous materials meeting (May 31 and June 1) regarding the railroads' reported training and staffing deficiencies. We agree that proposals to permit one-person train crews should not be considered until proven technology solutions are in place to allow for safe operations with a single crew member.

Sometimes, when a railroad experiences rapid growth in business, there appear to be insufficient railroad personnel to safely transport hazardous materials. Operational safety also can be compromised when hazardous materials are left on un-crewed trains for lengthy periods of time, and transported by tired and inadequately trained crews. Failure to follow these safety guidelines can lead to otherwise avoidable accidents.

According to DOT data, railroad safety performance has reached a plateau. The Federal Railroad Administration's "Action Plan for Addressing Critical Railroad Safety Issues," released in May 2005, reports "the train accident rate has not shown substantive improvement in recent years." From 1995 through 2004, the train accident per million train mile rate has hovered between a low of 3.54 and a high of 4.25. In fact, the rate was higher in 2004 (4.09) than in 1995 (3.67). [FRA Action Plan, May 16, 2005, pps.1 and 2.]

DOT cites several factors, which is why we strongly believe that a comprehensive review of hazardous materials rail safety must be conducted. We applaud DOT for holding a wide-ranging public meeting on hazardous material rail transportation safety, and believe that meeting was an important first-step to help ensure that the public and private resources devoted to hazardous materials rail safety will be effective.

ACC strongly supports a comprehensive, multi-stakeholder review of the complex and interrelated aspects of hazardous materials rail transportation safety. In our view, the appropriate approach includes:

- A systems review, including tank car design, railroad operational procedures, rail infrastructure and track construction and maintenance, and emergency response.
- Realistic and specific design standards that quantify the performance of current or proposed tank car designs based on verifiable physical characteristics. ACC believes that this approach should certainly incorporate findings from DOT research currently being conducted by DOT's Volpe National Transportation Systems Center under a provision of SAFETEA-LU. [Subsection 9005(b), now codified in 49 US Code, Section 21055.] Results of this study are expected this winter.
- Appropriate risk and cost-benefit analyses of proposed changes in hazardous materials transportation regulation and practices to ensure they are cost-effective and cost-efficient.

- A prioritized implementation timetable for proposed modifications.

We are also encouraged about the conference convened by FRA under authority in 49 U.S. Code Section 333 to discuss ways to minimize risk from rail transportation of certain hazardous materials. This process was requested jointly by AAR and ACC and the parties met yesterday at DOT. This ongoing conference will examine opportunities to reduce risk through railroad rerouting and product swaps.

DOT has established clear, specific, science-based regulations to ensure the safe transportation of hazardous materials. Violations of the hazardous materials regulations are subject to civil and criminal sanctions, which were raised significantly in SAFETEA-LU. [Sections 7120 and 7121, now codified in 49 US Code, Sections 5123 and 5124.]

This system appropriately places legal liability on the party or parties that are responsible for an incident. Railroads, as well as hazardous materials shippers and other entities, should continue to bear liability for their own actions. Removing that liability, or shifting it to the Federal Government or other private parties, could have unforeseen and undesirable consequences. Indeed, our concern is that such a change could erode safety performance by the carriers and create a significant disincentive to address the many factors that add up to rail hazardous materials transportation safety.

An important related matter is the “common carrier obligation,” under which railroads are required to transport commodities – whether or not hazardous – for their customers. The Interstate Commerce Clause of the Constitution grants power to the Congress to write the laws that govern our nation’s commerce. Congress recognized the common carrier obligation as the framework on which the entire national railroad transportation system was founded. [49 US Code, Subsection 11101(a).] And it remains crucial today. Railroads are chartered to operate in the public interest because the public depends on safe and reliable service in the delivery of a wide range of products on which we all depend.

Finally, I want to address one of the most critical components of hazardous material transportation safety – emergency response. Swift and appropriate response to accidents will save lives not only of the public but of the responders themselves.

ACC’s CHEMTREC® program, now in its 35th year, provides a successful blueprint for sharing expertise and experience with today’s emergency responders. Located in our headquarters building in Arlington, CHEMTREC is recognized by DOT and other federal agencies as a valuable source of information and expert counsel regarding hazardous materials incidents. When an incident takes place, responders contact CHEMTREC immediately to determine the best way to handle a wide range of hazardous substances including radioactive materials, infectious substances, biohazards, and hazardous waste. Our state-of-the-art emergency center is a 24/7 reminder of the commitment we make to enhance the safety of every hazardous material shipment, and the people whom it may affect.

I want to personally invite the members of this Subcommittee – and staff – to tour our CHEMTREC Emergency Center in Rosslyn to see how we work with local responders to help protect your communities. I will follow up with the staff director to determine an appropriate time for such a tour and discussion.

I also want to ask for the Subcommittee's help to ensure that emergency responders nationwide are informed community emergency preparedness resources – such as CHEMTREC® and TRANSCAER® -- and how our industry can help communities develop, review and implement effective emergency response plans. Your assistance can help us develop even more rapid and reliable systems to share information between shippers, railroads and emergency responders and develop sustainable, public-private distributive training programs for responders. I look forward to discussing these ideas with you both today and in the future.

The nation needs a safe and reliable system of hazardous material rail transportation, governed by uniform, national rules. That is the system we have today, and the challenge – for both the private and public sectors – is to ensure that this system continuously improves. We look forward to working closely with this Subcommittee, the Congress, the Department of Transportation and the other stakeholders to continuously enhance the safety of hazardous material rail transportation.

Thank you for allowing the American Chemistry Council to present its views to the Subcommittee. I would be glad to respond to answer any questions.

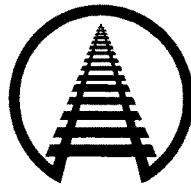
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**STATEMENT OF**

**EDWARD R. HAMBERGER**

**PRESIDENT & CHIEF EXECUTIVE OFFICER**

**ASSOCIATION OF AMERICAN RAILROADS**



**BEFORE THE**

**U.S. HOUSE OF REPRESENTATIVES**

**COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE**

**SUBCOMMITTEE ON RAILROADS**

**HEARING ON CURRENT ISSUES IN THE**

**RAIL TRANSPORTATION OF HAZARDOUS MATERIALS**

**JUNE 13, 2006**

On behalf of the members of the Association of American Railroads (AAR), thank you for the opportunity to discuss the transportation of hazardous materials (hazmat) by rail. AAR members account for the vast majority of freight railroad mileage, employees, and revenue in Canada, Mexico, and the United States.

Nothing is more important to railroads than the safety of their employees, their customers, and the communities they serve. Through massive investments in safety-enhancing infrastructure and technology; employee training; cooperative efforts with labor, suppliers, customers, communities, and the Federal Railroad Administration (FRA); cutting-edge research and development; and steadfast commitment to applicable laws and regulations, railroads are at the forefront of advancing safety.

Nevertheless, the current environment for the rail transportation of highly-hazardous materials, especially so-called “toxic inhalation hazards (TIH),”<sup>1</sup> is untenable. The federal government today, through railroads’ common carrier obligation, requires railroads to transport these shipments, whether they want to carry them or not. Every time a railroad moves one of these shipments, though, it faces potentially ruinous liability. The insurance industry is unwilling to insure the railroads against the multi-billion-dollar risks associated with highly-hazardous shipments.

Railroads face these huge risks for a tiny fraction of their business — shipments of TIH, for example, constitute only about 0.3 percent of all rail carloads. Accidents involving highly-hazardous materials on railroads are exceedingly rare. Still, history demonstrates that railroads can suffer multi-billion-dollar judgments, even for accidents where no one gets hurt and the railroads do nothing wrong.

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<sup>1</sup> Gases or liquids, such as chlorine and anhydrous ammonia, that are especially hazardous if released.

If policymakers are to require railroads to transport highly-hazardous materials, they must limit railroads' liability in the event of an accident. If railroads' risks are not limited, railroads will be forced to seek an elimination of their common carrier obligation to carry this traffic, or to challenge its applicability with regard to TIH and other highly-hazardous materials.

In the meantime, railroads support prompt, bold actions by all stakeholders to further reduce the risks associated with the manufacture, transport, and use of highly-hazardous materials. Risk-reducing actions that should be pursued (and are detailed more fully below) include accelerating the development and use of inherently-safer products and technologies as substitutes for highly-hazardous materials; developing and introducing safer tank cars; examining whether and how railroads can utilize coordinated routing arrangements to safely reduce hazmat transportation; and examining whether hazmat consumers can use "market swaps" to source hazmat from closer suppliers.

After briefly describing the railroads' safety record, this statement describes the many ways railroads are working to make the rail transportation of TIH and other highly-hazardous materials safer; details the initiatives manufacturers and consumers of highly-hazardous materials must undertake to enhance safety; and lists the steps that government must take to facilitate the continued transportation of TIH and other highly-hazardous commodities by rail.

#### **Overview of Railroad Hazmat Safety**

The overall railroad industry safety record is excellent, reflecting the extraordinary importance railroads place on safety. Over the past 25 years, railroads reduced their overall train accident rate by 65 percent and their rate of employee casualties by 79 percent.



In a typical year, 1.7 million to 1.8 million carloads of hazardous materials, consisting of hundreds of different commodities, are transported by rail throughout the United States. In 2004 (the most recent year available), hazmat shipments constituted 5.0 percent of total U.S. rail carloads and 5.4 percent of total rail tonnage. Approximately two-thirds of rail hazmat movements move in tank cars, with the rest in various other freight car types. TIH commodities are a subset of hazardous materials and, when carried by railroads, are carried almost exclusively in tank cars. In 2004, U.S. railroads transported 105,000 carloads of TIH between hundreds of origin-destination pairs throughout the country.

While railroads recognize and regret the occurrence of a few tragic accidents involving hazardous materials over the past couple of years, the rail hazmat safety record, like the overall rail safety record, is extremely favorable. In 2004, 99.997 percent of rail hazmat shipments reached their destination without a release caused by an accident. Through 2004, rail hazmat accident rates were down 89 percent since 1980 and 40 percent since 1990.

That said, railroads agree that efforts should be made to increase the safety and security of hazmat transportation by rail where practical, and railroads are committed to those efforts. Indeed, railroads understand as well as anyone that hazmat safety is essential. This transportation carries extraordinary risks for railroads, and the revenue that highly-hazardous materials generate for railroads does not come close to covering the liability to railroads associated with this traffic. This is especially so for TIH. Even though TIH accounts for a small fraction of total rail traffic, the transport of TIH has the potential to be a “bet the company” activity for railroads.<sup>2</sup>

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<sup>2</sup> Even with the extension last year of the Terrorism Risk Insurance Act, TIH contributes some 50 percent to the overall cost of railroad insurance. Even with this substantial expenditure, it is not possible to fully insure against a catastrophic incident involving TIH. Insurers are less and less willing to write insurance at all for these risks.

Given the level and complexity of railroad operations — the railroad “factory floor” is outdoors and more than 140,000 miles long — it is unrealistic to expect that no rail accidents will occur, especially when the railroads can do everything right and a third party can cause an accident. It is realistic, though, to expect rail management, rail customers, rail labor, and the government to work together to further improve rail safety, including hazmat safety.

In fact, the rail industry believes that the only reasonable way by which TIH and other highly-hazardous materials can continue to be transported by rail is if all participants in the hazmat logistical chain, working in conjunction with appropriate government agencies, engage in an earnest, holistic approach to improving safety and controlling risk.

#### **What Railroads Are Doing**

Railroads acknowledge their obligations regarding safety, and they are approaching enhanced hazmat safety on a variety of fronts.

#### Day-to-Day Rail Operations

One rail industry focus for enhancing hazmat safety relates to day-to-day operations.

Railroads are engaged in a variety of pursuits to enhance safety in this way. For example:

- For certain trains and routes carrying a substantial amount of TIH and other highly-hazardous materials, railroads have voluntarily agreed to special speed limits, passing restrictions, and inspections. Some railroads have implemented additional measures, including escorts by inspection vehicles and automated switch position monitoring.
- Railroads work closely with chemical manufacturers in the Chemical Transportation Emergency Center (Chemtrec), a 24/7 resource that coordinates and communicates a broad range of critical information that may be needed by emergency responders in mitigating hazmat-related incidents.

Related to this, railroads have agreed in principle to, and are developing, a two-part resource (“FreightScope”) for use by emergency responders through Chemtrec. In the first part, appropriate governmental entities (e.g., the FRA) will be able to obtain information on the locations of hazmat-containing freight cars prior to major events (e.g., hurricanes). In the second part, railroads will

provide to Chemtrec, on a real-time basis, the identification numbers of cars containing hazmat, the commodity being carried, and the name of the handling railroad. If hazmat incidents occur, emergency responders will be able to contact Chemtrec to obtain this information, thereby enhancing their response capabilities.

- Railroads assist communities in developing and evaluating emergency response plans. Through their own efforts and the Transportation Community Awareness and Emergency Response Program (TRANSCAER), they provide training for more than 20,000 emergency responders per year, many of them at AAR's Transportation Technology Center in Pueblo, Colorado. And railroads support Operation Respond, a nonprofit institute that develops technological tools and training for emergency response professionals.
- Upon request, railroads provide local emergency response agencies with, at a minimum, a list of the top 25 hazardous materials transported through their communities. The list assists local emergency responders in prioritizing their response plans to what is most likely to be transported through their areas.
- Railroads are working with the Transportation Security Administration and independently to identify opportunities to reduce exposure to terrorism in high threat rail corridors and terminals.
- Railroads comply with HM-232, a U.S. Department of Transportation (DOT) rulemaking that imposes record-keeping and training requirements on hazmat transporters.
- As I discussed in detail in testimony before this committee in May 2004, railroads have developed a Terrorism Risk Analysis and Security Management Plan, a comprehensive priority-based blueprint of actions designed to enhance the security of the nation's freight rail network. Under the plan, railroads work closely with the Department of Homeland Security (DHS), the Department of Defense, intelligence agencies, and others.

#### Tank Car Designs and Standards

Railroads believe that the design and performance of tank cars that carry TIH need to be improved at all deliberate speed. Railroads themselves own very few tank cars — more than 99 percent are owned by non-railroad leasing companies or shippers.

The AAR's Tank Car Committee — a group of technical representatives from railroads, shippers, and tank car builders/lessors that works closely with the DOT to, among other things, establish detailed tank car design standards and review individual tank car design drawings — is evaluating a new standard for chlorine and anhydrous ammonia tank cars that

would reduce the risk of a rupture. Research from the University of Illinois has indicated that the probability of a release of chlorine or anhydrous ammonia (which together constitute some 80 percent of TIH transported by rail) could be substantially reduced by substituting enhanced tank cars for the tanks cars currently in use. The Tank Car Committee also is examining whether the phase-out of tank cars constructed of non-normalized steel should be accelerated.<sup>3</sup>

The Tank Car Committee hopes to have a final recommendation by September 2006. Railroads look forward to working with the FRA and other parties to pursue an aggressive implementation of new tank car standards.

The Tank Car Safety Research and Test Project (Project) is another rail industry R&D effort designed to enhance tank car safety. Funded by railroads, tank car builders, and tank car owners, the Project analyzes accidents involving tank cars and continually updates a comprehensive database on the precise nature of damage to tank cars. Analysis of these data enhances safety by improving researchers' ability to identify the causes of tank car releases and help prevent future occurrences. The database is often cited by the DOT as a role model for other modes of transportation.

In addition to data gathering and analysis, the Project is engaged in numerous ongoing research efforts, including an effort to identify improvements in tank car steels; assisting the FRA on the development of a computer model that will simulate the effects of derailment forces on tank cars; working with the FRA and Transport Canada to determine the effects of thermal protection degradation on tank cars; and validating a computer model used to evaluate the effects of fire on tank cars.

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<sup>3</sup> "Normalized" steel is steel that has been subjected to a specific heat treatment procedure that improves the steel's ability to resist fracture. Current standards allow use of non-normalized steel tank cars until 2029.

Section 333 Coordination Projects

Railroads have taken the initiative to explore the potential for coordinated actions with TIH manufacturers, consumers, and government to reduce risks through modifications to railroad routing arrangements.

From a transportation standpoint (and all other factors being equal), safety would generally be enhanced if TIH movements were of shorter length and duration. One way to achieve this result and reduce the risks involved would be for railroads to examine the feasibility of agreements among themselves to move highly-hazardous materials over shorter appropriate routes.<sup>4</sup> The overarching goal would be to reduce mileage and time in transit of TIH movements.

The feasibility and potential benefits of this approach can be determined only if all relevant stakeholders (including manufacturers, users, transporters, and relevant government agencies) are able to discuss public policy considerations, alternatives, and constraints, including possible changes to existing business practices. Because such a free-ranging discussion of business practices could touch on matters of competitive or economic significance, concerns about potential antitrust risk likely would constrain the discussions if the antitrust laws applied. For example, the potential discussion among railroads noted in the previous paragraph could raise issues that such activity might affect the competitive market.

For this reason, railroads have obtained an agreement with the DOT to hold a conference convened under 49 U.S.C. § 333 that would convey limited antitrust immunity for participants to discuss “coordination projects” associated with the manufacture and transport

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<sup>4</sup> A similar intra-industry process to minimize required transport needs to take place among TIH producers and consumers and is discussed below under the “What Hazmat Manufacturers and Users Should Do” section.

of TIH materials. In addition to DOT, participants at the conference, which would convene with no preconceived notion of the result, could include affected railroads, chemical manufacturers, consumer representatives, Surface Transportation Board (STB) representatives, and representatives of the Antitrust Division of the Department of Justice and the Federal Trade Commission.

#### New Train Control Technology

Another approach railroads are taking to enhance rail hazmat safety focuses on technology.

At a basic level, railroading today is similar to railroading 150 years ago: it still consists of steel wheels traveling on steel rails, with one or more locomotives pulling a string of cars. This surface similarity, however, masks a widespread application of modern technology and a huge variety of ongoing initiatives to research, test, and apply advanced technologies to promote a safer and more efficient railroad environment.

For example, several major railroads are now developing and testing train control systems that can prevent accidents by automatically stopping or slowing trains before they encounter a dangerous situation. Through predictive enforcement, train control technologies, in certain circumstances, could significantly reduce the incidence of human error-caused train accidents, especially train collisions and derailments due to excessive speed.

Train control systems are extremely complex. At a minimum they must include reliable technology to inform both dispatchers and operators of a train's precise location; a means to warn operators of actual or potential problems (*e.g.*, excessive speed); and a means to take action, if necessary, independent of the train operator (*e.g.*, stop a train before it reaches the physical limits of its operating authority). Some systems will also include

additional features, such as expanding the ability to monitor the position of hand-operated switches. Perhaps the most critical element is sophisticated software capable of accommodating all of the variables associated with rail operations.

When successfully implemented, these enhanced train control capabilities will enable trains to operate more safely than trains operate today.

Several major railroads are engaged in various projects to test elements of this new technology. For example, one railroad is about to deploy a version of train control (Electronic Train Management System - ETMS) on a rail corridor between Texas and Kansas and is awaiting final approval from the FRA on the technology.

Implementing train control technology will require massive capital investments in wireless networks; sophisticated location determination systems; highly reliable software; and digital processors on board locomotives, in dispatching offices and, for some systems, along tracks. Extreme care must be taken regarding which variety of train control technology is adopted and how it is implemented, given its substantial cost. Most major railroads intend to install train control systems and use any related productivity gains to help offset their cost.

#### Employee Training

To help protect their employees and the communities they serve, railroads offer basic hazardous material awareness training to all employees. Employees learn to recognize a hazmat emergency and whom to contact in an emergency. Rail employees responsible for emergency hazmat response efforts receive much more in-depth training. Emergency response should be left to those specialized employees and contractors who are trained and equipped for this highly technical and dangerous work. Non-trained employees are expected

to notify the appropriate authorities, then move to a safe area while highly-trained specialists respond to the emergency.

#### Other Technological Enhancements

Railroads are pursuing a variety of other technological advancements to advance rail safety. Much of this new technology has been or is being developed and/or refined at the Transportation Technology Center, Inc. (TTCI) in Pueblo, Colorado. A wholly-owned subsidiary of the AAR, TTCI is the finest rail research facility in the world. Its 48 miles of test tracks, highly sophisticated testing equipment, metallurgy labs, simulators, and other diagnostic tools are used to test track structure and vehicle performance, evaluate component reliability, and more. The facility is owned by the FRA, but has been operated by TTCI — which is responsible for all of its operating costs — since 1984.

Just a few of the technological advances important to rail safety, including many with direct applicability to hazmat safety, are described below. Many of them are being incorporated in the rail industry's Advanced Technology Safety Initiative (ATSI), a maintenance system designed to detect and report potential safety problems and poorly performing equipment before problems occur. Many advances are also related to the industry's Technology-Driven Train Inspection (TDTI) program, which focuses on developing high technology train inspection capabilities.

- *Wayside detectors* identify defects on passing rail cars — including overheated bearings and wheels, dragging hoses, deteriorating bearings, cracked axles and wheels, and excessively high and wide loads — before structural failure or other damage occurs. Some of the newest wayside detectors being developed use *machine vision* to perform higher-accuracy inspections through the use of digitized images, which are then analyzed using computer algorithms. Tests at TTCI last year revealed that it is possible to inspect wheels of moving trains using *ultrasonic probes* and detection algorithms. Further tests of this system are underway, as are tests on ways to better understand and prevent *axle fatigue*.



- *Wheel profile monitors* use lasers and optics to capture images of wheels. The images reveal if wheel tread or flanges are worn and, consequently, when the wheels need to be removed from service before they become a problem.
- *Trackside acoustic detector systems* use “acoustic signatures” to evaluate the sound of internal bearings to identify those likely to fail soon. These systems supplement or replace existing systems that identify bearings already in the process of failing by measuring the heat they generate. This technology allows bearings to be replaced before they overheat and fail.
- Wheels constructed with stronger *micro-alloyed metals* that resist damage and withstand higher service loads are being developed.
- *Advanced track geometry cars*, which combine sophisticated electronic and optical instruments, are used routinely to inspect track conditions, including alignment, gauge, and curvature. TTCI is developing an on-board computer system that provides a more analytically-advanced capability of assessing track geometry by predicting the response of freight cars to track geometry deviations. This information will better enable railroads to determine track maintenance needs and help improve the safety of day-to-day rail operations.
- *Improved metallurgy and premium fastening systems* have improved the stability of track geometry, reducing the risk of track failure leading to derailments.
- Research is continuing in the development of *designs, materials, and maintenance techniques* for improving the performance of specialized track components used in heavy haul railroading — for example, “frogs” and “diamonds,” which are track structures used where two rail lines intersect that permit wheels to cross the intersecting rail, and “joints” where sections of rail meet.
- *Rail defect detector cars* are used to detect internal rail flaws. The AAR and the FRA have jointly funded a Rail Defect Test Facility that railroads and suppliers can use to test improved methods for detecting rail flaws at TTCI. In 2005, the capabilities of a prototype of the world’s first laser-based rail inspection system were tested at TTCI; the system will be demonstrated in actual revenue service later this year.
- *Ground-penetrating radar and terrain conductivity sensors* are being developed that will help identify problems below the ground (such as excessive water penetration and deteriorated ballast) that hinder track stability.
- *Advanced fault detection systems* monitor critical functions on locomotives. State-of-the-art locomotives today can have 20 or more sophisticated microprocessors that monitor and control various subsystems, constantly measuring and checking up to several thousand characteristics of the locomotive and its operation.
- Because a relatively small percentage of freight cars (so-called “bad actors”) can cause an inordinately high percentage of track damage and have a much higher than typical

propensity for derailment, TTCI is working on ways to identify poorly performing freight cars as they pass across *truck performance detectors* and *hunting detectors*.<sup>5</sup>

- Railroads are constantly expanding their use of state-of-the-art global positioning systems, wireless technologies, and other *communications advances* in a wide variety of rail applications. For example, the Integrated Railway Remote Information Service (InteRRIS), which is under development at TTCI, is an Internet-based data collection system with broad potential applicability. An early project using InteRRIS collects data from wheel impact detector systems (which identify wheel defects by measuring the force generated by wheels on tracks) and detectors that monitor the undercarriage of rail cars (which identify suspension systems that are not performing properly on curves) along railroad rights-of-way. InteRRIS processes the information to produce vehicle condition reports. This will allow equipment which is approaching an unsafe condition to be removed from service and repaired before an accident occurs.

#### **What Hazmat Manufacturers and Users Should Do**

Railroads believe that manufacturers and consumers of hazardous materials should take a number of steps to help ensure hazmat safety.

First, as noted in a just-released report by the National Research Council (part of the National Academy of Sciences), “the most desirable solution to preventing chemical releases is to reduce or eliminate the hazard where possible.” Ways this can be achieved include “modifying processes where possible to minimize the amount of hazardous material used” and “[replacing] a hazardous substance with a less hazardous substitute.”<sup>6</sup> In a similar vein, in a January 2006 report, the Government Accountability Office (GAO) recommended that the Department of Homeland Security “work with EPA to study the advantages and disadvantages of substituting safer chemicals and processes at some chemical facilities.”<sup>7</sup>

<sup>5</sup> In terms of rail cars, “truck” refers to the complete four-wheel assembly that supports the freight car body. “Hunting” is an instability, more prevalent at higher speeds, that causes a rail car to weave down a track, usually with the flange of the wheel striking the rail.

<sup>6</sup> *Terrorism and the Chemical Infrastructure: Protecting People and Reducing Vulnerabilities*, National Research Council – Board on Chemical Sciences and Technology, May 2006.

<sup>7</sup> *Homeland Security: DHS is Taking Steps to Enhance Security at Chemical Facilities, but Additional Authority is Needed*, Government Accountability Office, January 2006.

Railroads agree, and strongly support efforts aimed at finding and utilizing “inherently safer technologies” as substitutes for hazardous materials, especially TIH. Several bills are being considered which would incorporate product substitution and improvement as a means to reduce TIH risks.<sup>8</sup>

One real-world recent example of product substitution occurred at the Blue Plains wastewater treatment facility just a few miles from the U.S. Capitol. Like many wastewater treatment facilities, Blue Plains used chlorine to disinfect water. Not long after 9/11, the facility switched to sodium hypochlorite, a safer alternative. Similarly, Milwaukee has substituted ozone treatment for chlorine purification.

Railroads recognize that the use of TIH cannot be immediately halted without entailing enormous economic disruption and public health ramifications. However, over the medium to long term, product substitution would go a long way in reducing the risks in the hazmat logistical chain.

Second, safety might be improved if manufacturers and receivers of TIH, in conjunction with railroads and the federal government, explored the use of “coordination projects” under U.S.C. § 333 (discussed earlier) to allow TIH consumers to source their needs from closer suppliers. For manufacturers and users, this could involve “swaps.” For example, if a chlorine user contracts with a chlorine supplier located 600 miles away, but another supplier is located 300 miles away, the supplier located 600 miles away might agree to allow the closer shipper to supply the user, whenever arrangements acceptable to the involved railroads could also be reached.

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<sup>8</sup> For example, H.R. 2237 encourages the use of “inherently safer technologies” and establishes a publicly-available clearinghouse to compile and disseminate information on their use and availability. S. 2855 deals with utilizing “inherently safer technology” at water treatment plants.

Third, railroads believe that hazmat consumers and manufacturers should support efforts aimed at increasing the safety and reliability of tank cars. So far, most chemical manufacturers have not embraced the opportunity to reduce TIH transport risks by pursuing the adoption of new higher-safety design standards for tank cars, possibly because they may believe they do not bear the primary responsibility in the event of an accident.

#### **What Government Should Do**

The rail industry believes that the government has an important role to play in enhancing the safety of hazmat transport by rail.

First, the government should remedy the inequity in current law that has forced railroads to assume risks they would not assume on their own without protection against those risks. The Interstate Commerce Act makes railroads common carriers, which basically means that railroads have a statutory obligation to provide rates and service upon reasonable request by a shipper. Thus far, this common carrier obligation has included the duty for each railroad to accept shipments of highly-hazardous materials for movement over its rail network. Unlike firms in other industries, including other transportation companies, railroads today have not been able to “just say no” to entering into a business relationship with consumers or manufacturers of these materials.

However, absent this requirement many railroads would not transport these materials because of the potentially ruinous claims that could arise in the event of a catastrophic accident involving a release of these materials. Such an accident can occur even if the railroad is not at fault. Drunk drivers, impatient motorists driving around a grade crossing gate or ignoring a signal at a grade crossing, faulty repairs by the owner of a tank car, and

pranksters — not terrorists — have caused incidents that could have been disastrous if they had involved the release of these materials.

For example, a few years ago in New Orleans, a tank car that railroads did not own containing more than 30,000 gallons of liquid butadiene began to leak. Vapor from the butadiene tank car rolled out across a neighborhood until the pilot light of an outdoor gas water heater ignited it. More than 900 people were evacuated. The National Transportation Safety Board found that the probable cause of the accident was an improper gasket that a chemical company had installed on the tank car.<sup>9</sup> Nevertheless, a state court jury entered a punitive damages verdict against the railroads involved in the amount of \$2.8 billion.

If the federal government is going to require railroads to transport highly-hazardous materials, it must address the “bet the company” risk it forces them to assume. Congress can address this inequity in one of at least three ways.

Congress could create a statutory liability cap for the railroads similar to the one that applies to Amtrak. As you know, Amtrak’s total liability for all claims, including punitive damages, from a single accident — regardless of fault — is capped at \$200 million. Congress could enact a similar type of cap on the liability a railroad would incur from an accident involving highly-hazardous materials, regardless of fault, but with the government paying liabilities in excess of the cap.

Congress could also enact a Price-Anderson type solution. Price-Anderson limits the liability of a company from an incident involving the release of nuclear material, including in transportation, and provides for a fund to which all owners of nuclear power plants contribute

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<sup>9</sup> National Transportation Safety Board, NTSB/HZB-88/01, Hazardous Materials/Railroad Accident Report, Butadiene Release and Fire From GATX 55996 at the CSX Terminal Junction Interchange in New Orleans, Louisiana, Sept. 8, 1987, at 62.

when an incident occurs to cover any damages in excess of that limit. Under a similar proposal for TIH, the railroad would be liable for some defined amount of damages arising from a railroad accident involving a highly-hazardous material. Any damages above that defined amount would be paid from a fund to which producers and end-users of these materials would contribute in the event of an incident. The main purpose of such legislation would be to cap the railroad's liability for claims, while still ensuring compensation for the general public. However, it also seeks to balance the societal need to compensate the injured and damaged with the need for any railroad involved to be able to continue to operate and remain viable.

Both of these solutions are reasonable, given railroads' federally-imposed common carrier obligation and given that accidents are inevitable no matter how carefully and safely a railroad operates. Under either proposal, limiting freight railroads' liability from an accident involving highly-hazardous materials would reduce the railroads' risk exposure. It would also bring certainty to the insurance market, and hopefully more insurance companies would once again be willing to offer railroads coverage. Importantly, both proposals leave railroads liable for a substantial amount, thereby giving them a further incentive — on top of their already aggressive pursuit of safe operations — to continue their ongoing, successful record of safety improvement.

Absent these two alternatives, Congress should relieve railroads of their common carrier obligation to haul TIH and other highly-hazardous materials. If Congress will not provide some degree of protection from unlimited potential liability from transporting these materials, then it should not mandate that the railroads' shareholders assume that risk. Rather,

railroads should be permitted to decide for themselves whether to accept, and at what price they are willing to accept, such materials for transportation.

Second, the government can help facilitate the “coordination projects,” such as the ongoing initiatives under provisions of 49 U.S.C. § 333 noted earlier.

Third, the government can more fully examine the potential, including research of and providing incentives for, “inherently safer technologies” to take the place of TIH and other highly-hazardous materials in industrial and other applications.

Fourth, railroads urge more federal research and development into ways that hazmat safety can be enhanced. More can be done, for example, on the evaluation of breach monitoring devices and on large-scale methods to enable safer transportation and storage of hazardous chemicals using absorbents.

#### **What Government Should Not Do**

A number of local and federal proposals have been offered that would restrict rail movements of hazardous materials in one way or another. One such proposal would give state or local authorities the ability to ban the movement of hazmat through their jurisdictions. Another proposal would order railroads to provide local authorities advance notification of hazmat movements through their jurisdictions.

The purposes of these types of proposals are protection of the local populace against hazmat incidents, including terrorist attack (especially in perceived “high threat” areas), and enhancing the ability to react more quickly to hazmat-related incidents, should they occur. The proposals may be well intended, but the end result of their enactment on a locality-by-locality basis would likely be an *increase* in exposure to hazmat release and *reduced* safety and security.

Banning Hazmat Movements by Rail (“Rerouting”)

Banning hazmat movements in individual jurisdictions would not eliminate risks, but instead would shift them from one place to another and from one population to another. In shifting that risk, it could foreclose transportation routes that are optimal in terms of overall safety, security, and efficiency and force railroads to use less direct, less safe routes.

The rail network is not similar to the highway network where there are myriad alternate routes. In the rail industry, rerouting could add hundreds of miles and several days to a hazmat shipment, and those additional miles and days could be on rail infrastructure that is less suitable (for a variety of reasons) to handling hazmat. Additional switching and handling of cars carrying hazmat could be needed, as could additional dwell time in yards. As the Department of Justice and the Department of Homeland Security noted in a joint brief opposing a proposed D.C. hazmat ban, the increase in the total miles over which hazmat travels and the increase in total time the materials are in transit would “increase their exposure to possible terrorist action,” and therefore potentially *reduce* safety and security. The U.S. DOT also submitted a statement recognizing that banning hazmat shipments through certain areas reduces both safety and security.

If hazmat transport were restricted in one jurisdiction, other jurisdictions would undoubtedly follow suit. In fact, that is already happening. In the wake of the action (so far unsuccessful) by the D.C. City Council to ban hazmat movements through Washington, similar efforts are being discussed in Atlanta, Baltimore, Boston, Cleveland, Chicago, Las Vegas, Philadelphia, Pittsburgh, and probably other cities too, as well as all of California.

An integrated, effective national network requires uniform standards that apply nationwide. The clarity and efficiency that uniformity brings would be lost if different



localities and routes were subject to widely different rules and standards, or if local and/or state governments could dictate what types of freight could pass through their jurisdictions. The problem is especially acute for railroads, whose network characteristics and limited routing options mean that disruptions in one area can have profound impacts thousands of miles away. These disruptions would negatively affect all rail traffic, not just hazmat traffic.

Thus, if policymakers determine that hazmat movements should be banned, they should be banned nationwide, rather than on a locality-by-locality basis.

#### Hazmat Prenotification

Hazmat pre-notification to local authorities is problematic for several reasons and may not accomplish the goals of those seeking it.

First, upon request the rail industry already notifies communities of, at a minimum, the top 25 hazardous commodities likely to be transported through their area.

Second, by definition, pre-notification would vastly increase the accessibility of hazmat location information. Making this information far more accessible than it currently is could actually increase vulnerability to terrorist attack, not decrease it, because it would magnify the possibility that the information could fall into the wrong hands.

Third, at any one time, thousands of carloads of hazmat are moving by rail throughout the country, constantly leaving one jurisdiction and entering another. The vast majority of these carloads do not — and due to the nature of rail operations, cannot be made to — follow a rigid, predetermined schedule. The sheer quantity and transitory nature of these movements would make a workable pre-notification system extremely difficult and costly to implement, for railroads and local officials alike. That is why the fire chief of Rialto, California, commented, “You’d have to have an army of people to stay current on what’s coming

through. I think it wouldn't be almost overwhelming. It would be overwhelming." The greater the number of persons to be notified, the greater the difficulty and cost.

Fourth, railroads provide training for hazmat emergency responders in many of the communities they serve, and they already have well-established, effective procedures in place to assist local authorities in the event of hazmat incidents. In fact, through the Transportation Community Awareness and Emergency Response Program, railroads help train more than 20,000 local emergency responders per year.

Finally, since railroads already make communities aware of what types of hazardous materials are likely to be transported through their area and since they already provide 24/7 assistance for emergency responders (many of whom railroads have trained), it is not at all clear that information obtained by local authorities through a pre-notification system would improve their ability to respond to hazmat incidents in any meaningful way.

#### **Conclusion**

The rail industry cannot continue to transport highly-hazardous materials under the conditions that currently exist. The inordinately high risks now borne by railroads must be dramatically reduced through enhancements in safety and the provision of reasonable liability protection. All participants in the hazmat logistical chain, working in conjunction with the appropriate government agencies, must accept responsibility to take a comprehensive, holistic approach to hazmat safety.

Attached herewith is a statement for this hearing from Norfolk Southern Corporation's Chairman, President, and Chief Executive Officer Charles W. Moorman.

Thank you for the opportunity to testify on this critical topic.

**WRITTEN STATEMENT OF CHARLES W. MOORMAN  
CHAIRMAN, PRESIDENT AND CHIEF EXECUTIVE OFFICER  
NORFOLK SOUTHERN CORPORATION**

**BEFORE THE**

**SUBCOMMITTEE ON RAILROADS  
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE  
U.S. HOUSE OF REPRESENTATIVES**

**JUNE 13, 2006**

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I am Wick Moorman, and it is my privilege to serve as Chairman, President and Chief Executive Officer of Norfolk Southern Corporation.

As you know, the Interstate Commerce Act makes railroads common carriers, which basically means that railroads have a statutory obligation to provide rates and service upon request by a shipper. 49 USC 11101. Under current law, this common carrier obligation includes the duty for each railroad to accept shipments of highly hazardous materials for movement over its rail network. Absent this obligation, Norfolk Southern would not transport these materials.

Norfolk Southern does not make these highly hazardous materials. Norfolk Southern does not use these highly hazardous materials. And Norfolk Southern does not make enough money transporting these highly hazardous materials to justify the risks the Federal Government requires us to take. Nevertheless, Norfolk Southern assumes an enormous risk every time we comply with this Federal statutory requirement by transporting a carload of highly hazardous material.

Unfortunately, Norfolk Southern has first hand experience with the dangers and risks to our company associated with transporting highly hazardous materials. In January 2005, a Norfolk Southern train approached an industrial switch in Graniteville, South Carolina, that was misaligned due to human error. The train diverted into a siding containing a parked train and derailed. A tank car containing chlorine ruptured and released chlorine gas. Nine people died, including the train engineer, many others presented to local hospitals, and many more were evacuated from the area within a one-mile radius of the accident.

Although the Graniteville accident resulted from human error by a railroad employee, an accident involving a train with carloads of highly hazardous materials can occur at any time and without any fault of the railroad. Consider the following examples of accidents that occurred on Norfolk Southern in recent years in which the incident occurred because of the actions of others.

- In Hagerstown, Indiana, a driver came to a signalized rail crossing. The Honda Civic in front of him stopped because the signals were flashing and the automatic gate at the rail crossing was down. The driver drove his car around the Civic, around the crossing gate, and onto the tracks into the path of one of our trains.
- In Greensboro, North Carolina, the driver of a gasoline truck stopped his truck across our tracks after allegedly not seeing the warning signals. Our train struck the truck, causing a fiery crash.
- In Augusta, Georgia, a tractor-trailer driver drove through a crossing gate and flashing signal lights and rammed into the side of one of our passing trains, which resulted in the derailment of 24 rail cars.
- In Oakwood, Georgia, a drunk driver ran through a stop sign, continued through a field, and broadsided our train. Twelve cars derailed, including five with hazardous chemicals, which forced the evacuation of 250 people. Fortunately, the only spill was a load of plastic pellets.

- In New Orleans, Louisiana, a tank car containing more than 30,000 gallons of liquid butadiene that we had interchanged to another railroad began to leak. Vapor from the butadiene tank car rolled out across a neighborhood until the vapor ignited. More than 900 people were evacuated. The National Transportation Safety Board found that the probable cause of the accident was an improper gasket that a chemical company had installed on the tank car that the railroads did not own.<sup>1</sup> Nevertheless, a state court jury entered a punitive damages verdict against the railroads in the amount of \$2.8 billion.
- In Goshen, Indiana, vandals were able deliberately to derail eleven rail cars that were stored on our tracks for interchange with another railroad.

In each of these instances, the acts of others caused incidents for which Norfolk Southern could potentially have been or was exposed to tremendous liability from a release of highly hazardous materials. In these real life examples, the train crews did everything exactly according to rules and procedures. But one impatient driver, one faulty repair by the owner of a tank car, or one prankster— not a terrorist — caused an incident that could have been disastrous if the accident had involved the release of these materials. The simple fact is we are putting our company at risk every single time we couple a carload of these highly hazardous materials to one of our trains — no matter how safely we operate.

It simply is not good public policy to force railroads to bear all the substantial risks of catastrophic damages associated with transporting highly hazardous materials — risks we would not take absent the common carrier obligation imposed by the Federal government. Such damage payments would significantly retard a railroad's ability to finance maintenance efforts (which could itself have adverse safety consequences) and

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<sup>1</sup> National Transportation Safety Board, NTSB/HZB-88/01, Hazardous Materials/Railroad Accident Report, Butadiene Release and Fire From GATX 55996 at the CSX Terminal Junction Interchange in New Orleans, Louisiana, Sept. 8, 1987, at 62.

infrastructure improvements that enhance safety and expand capacity. As you know from this Committee's April 26 hearing entitled "The U.S. Rail Capacity Crunch," our country needs that investment to occur. These damage payments could even bankrupt a railroad.<sup>2</sup>

It is time for Congress to remedy the inequity in the law that forces us to assume risks that we would not assume on our own without any protection against those risks.

Accordingly, Norfolk Southern supports the position of the Association of American Railroads that Congress must act. Congress could (1) create a statutory liability cap for the railroads similar to the one that applies to the National Railroad Passenger Corporation or (2) enact a Price Anderson-like solution. If it will not, then it should not mandate that our shareholders assume that risk. This Committee should relieve railroads of their common carrier obligation so that Norfolk Southern can decide for itself whether to accept and at what price it is willing to accept such materials for transportation.

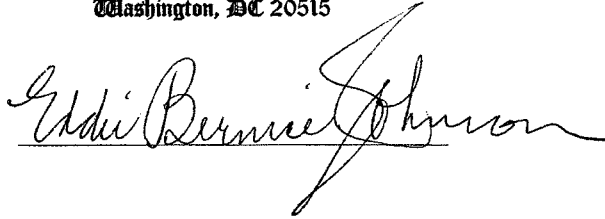
While awaiting government action, Norfolk Southern continues to examine every possible option to share the risk it assumes when it complies with the common carrier obligation with those who make and use these materials. Those options include petitioning the Surface Transportation Board to recognize that highly hazardous materials are outside the scope of regulation, requiring shippers to indemnify the railroad or carry insurance to cover the transportation of those materials, increasing rates or applying new charges to cover our risk, and passing along any costs we incur to implement

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<sup>2</sup> Today, insurance coverage for railroads is even more limited than it was before the Graniteville accident and other recent incidents on other railroads. Currently, there is a maximum of about \$1 billion in insurance coverage available in the market. Moreover, the number of companies willing to underwrite coverage is shrinking – making the insurance market thin, and rates have risen dramatically. I fear that one day soon insurance may not be available to us at a reasonable price at any level.

governmental security or safety recommendations or regulations related to the transportation of these materials. We are aware that many of our customers may not like these options, but absent legislation, they may be our only alternatives.

**Congress of the United States**  
Washington, DC 20515

A handwritten signature in black ink, reading "Eddie Bernice Johnson", written over a horizontal line.

The Honorable Eddie Bernice Johnson  
Opening Statement  
House Subcommittee on Railroads - Hearing on Rail Transport of Hazardous Materials  
Tuesday, June 13, 2006 - 2167 Rayburn

**Thank you Mr. Chairman.**

I want to commend you and Ranking Member Brown for holding this important hearing.

Our nation's freight rail system is one of the safest and most efficient modes of transportation in the world.

Every day, freight rail transports tons of goods and materials across their 140,000 route miles providing a direct economic impact to this nation's robust economy.



Critically important to this equation is the role of a secure freight rail system, particularly as it relates to the transport of hazardous materials.

According to the Association of American Railroads, approximately 1.7 million carloads of hazardous materials are transported by rail throughout the country each year.

And while I am keenly aware that the industry is working hard to ensure the increased safety of hazmat transport, the reality is that accidents can and will happen.

For example, on June 28th of 2004, a freight train carrying chlorine gas and ammonia collided in my state killing three people and hospitalizing more than twenty as a cloud of chlorine enveloped the surrounding area.

Only one of the dead was aboard. The others died as a result of gas drifting over a residential neighborhood over a mile away.

While the accident occurred in a rather rural area, I cringe at the thought of a collision like this occurring along rail routes in a high-urban density area through the heart of my congressional district in downtown Dallas.

An unfortunate incident such as the 2004 Texas accident, although rare, underscores the unique challenges and terrorism risk associated with the transport of hazardous materials.

While the tragic events of September 11th, 2001 have forced us to take a hard look at how we secure our various modes of transportation—hazmat transport by rail still remains highly vulnerable.

According to GAO, a number of positive steps have been taken by rail stakeholders to bolster the nation's rail security since September 11th such as: performing risk assessments, emergency drills, and developing security plans.

While I am heartened by GAO's findings—more work remains to be done, particularly in resources invested towards hazmat transport safety and regulation concerns.

I feel strongly that, as policymakers, we must revive our resolve to approach rail safety and security challenges with a sense of urgency.

To do otherwise only serves to further compromise the safety of the American public.

I want to thank our witnesses that have come before us to testify this afternoon and look forward to hearing their thoughts on how we can work together in improving hazmat safety and security.

Thank you and I yield back the balance of my time.

**Statement of Lawrence M. Mann**  
**before the House Committee on Transportation & Infrastructure Railroads Subcommittee**  
**on "Current Issues in Rail Transportation of Hazardous Materials"**  
**June 13, 2006, 10 a.m.**

Mr. Chairman and Members of the Subcommittee:

Thank you for the opportunity to submit this testimony regarding the administration of the Federal Railroad Safety Act ("FRSA") and the need to revise the FRSA to ensure that it does not preempt state laws associated with railroad accidents and negligence claims.

By way of introduction, my name is Lawrence Mann and I am a founding partner of the law firm, Alper & Mann. I have devoted my entire professional career to improving railroad transportation safety. For example, I was one of the principal draftsmen of the Federal Railroad Safety Act of 1970, which included amendments to the Hazardous Materials Transportation Act. Since that time I have participated in virtually every major amendment to the federal railroad safety laws. I have appeared before the Federal Railroad Administration in every major proposed rulemaking relating to safety and I have participated in many of the most significant lawsuits nationwide in connection with the interpretation of federal laws and regulations, as well as the rights of the states to adopt and enforce rail safety laws. I am a Board member of the Academy of Rail Labor Attorneys, and an alternate member of the federal Railroad Safety Advisory Committee.

Throughout my career, I have been involved in numerous lawsuits involving both hazardous materials spills and railroad negligence cases. A significant case in which I was involved resulted from a train explosion in Waverly, Tennessee, in 1978. This accident led to the federal requirements for head shields, shelf couplers, and thermal insulation on certain tank cars. Further, I participated as either a member of the litigation committee or consultant to the attorneys handling the lawsuits arising out of three of the worst railroad catastrophes in recent years--Dunsmuir, California (July 15, 1991), Duluth, Minnesota/Superior, Wisconsin (June 30, 1992) and Richmond, California (July 26, 1993), each of which resulted in many personal injuries and serious environmental damages.

The purpose of my testimony is to urge Congress to revise the FRSA to allow victims of railroad derailments to have the ability to bring state tort law claims to afford them the justice required by common sense and sound policy. The FRSA, as currently written, contains an express preemption provision which requires federal court judges to find that the FRSA preempts state law in many railroad tort cases. Numerous courts have recognized a common law claim for violation of Federal Railroad Administration ("FRA") requirements. However, some federal court judges feel their hands are tied and that they must find preemption in accordance with the FRSA's language. It is this problem that I am here to discuss today and to advocate for a revision of the FRSA to ensure that judges in similar cases will not be forced to find preemption of common law tort actions. First, I will explain how federal case law illustrates the problems associated with the FRSA's preemption provisions. Second, I will address state case law that has found that preemption does not exist. Third, I will address some additional concerns related to federal railroad safety oversight which further emphasize the need to change the current railroad safety laws.

**Federal Case Law Illustrates Problems Associated With FRSA's Preemption Provisions**

A recent federal court case regarding claims for personal injuries and property damage suffered because of a train derailment illustrates the gravity of this problem. In *Mehl v. Canadian Pacific Railway, Ltd.*, Case No. 4:02-cv-009, Order Granting Defendants' Motion to Dismiss (D.N.D. Mar. 6, 2006) ("*Mehl*"), a class of plaintiffs filed suit against Canadian Pacific Railway ("CP Rail") for damages suffered as a result of a derailment of a CP Rail freight train near Minot, North Dakota. In response to the Plaintiffs' complaint alleging seven different claims, CP Rail sought to dismiss the case, claiming that the Eighth Circuit Court of Appeals' federal precedent mandates that the court find the Plaintiffs' claims are preempted by federal railroad safety laws. *Mehl* at 3.

The North Dakota federal district court engaged in an analysis of the FRSA and federal preemption doctrine and, yet, regretfully, found that federal law required it to dismiss the Plaintiffs' complaint. The court explained that Congress adopted the FRSA to achieve national uniformity among railroad standards and included an express preemption provision in the Act which clearly states that a State may adopt a law, regulation, or order regarding railroad safety only until the federal government "prescribes a regulation or issues an order covering the subject matter of the State requirement." *Id.* at 4 (quoting 49 U.S.C. § 20106 (2005)).

Relying upon Supreme Court precedent, the *Mehl* court explained that the FRSA's preemption provision "dictates that, to pre-empt state law, the federal regulation must 'cover' the same subject matter, and not merely 'touch upon' or 'relate to that subject matter.'" *Mehl* at 4-5 (quoting *Norfolk So. Ry. Co. v. Shanklin*, 529 U.S. 344, 351 (2000)). The court also noted that the Supreme Court and other federal circuit courts have held that several provisions of the FRSA preempt state law. *Id.* at 5. See, e.g., *Norfolk So. Ry. Co. v. Shanklin*, 529 U.S. at 347 (holding that federal regulations covered the subject matter of the adequacy of the warning devices installed with the participation of federal funds); *CSX Transp., Inc. v. Easterwood*, 507 U.S. 658, 676 (1993) (holding that federal regulations covered the subject matter of claims of excessive speed); *CSX Transp., Inc. v. Williams*, 406 F.3d 667 (D.C. Cir. 2005) (holding, in the context of a motion for preliminary injunction, that the FRSA preempted the District of Columbia's hazard materials transport law).

Interestingly, the *Mehl* court also took care to note the numerous state court decisions that have found that state law tort claims were not preempted by the FRSA. *Mehl* at 6. See, e.g., *Clark v. Illinois Central R.R. Co.*, 794 So.2d 191, 196 (Miss. 2001) (holding an obstructed view claim was not preempted by the FRSA's regulations regarding warning devices at railroad crossings); *In re Miamisburg Train Derailment Litig.*, 626 N.W.2d 85 (Ohio 1994) (holding the FRSA did not preempt a claim for negligent operation (failure to use reinforcing brake pads) because the regulation was adopted after the manufacture of the railroad car in question). Moreover, the *Mehl* court noted that the Eighth Circuit has ruled that neither a failure to warn claim nor a negligence claim based on the reflectivity of crossing warning signs was preempted by the FRSA. *Id.* at 7. See *St. Louis Sw. Ry. Co. v. Malone Freight Lines, Inc.*, 39 F.3d 472 (8<sup>th</sup> Cir. 1996); *Kiemele v. Soo Line R.R. Co.*, 93 F.3d 472 (8<sup>th</sup> Cir. 1996).

However, the *Mehl* court ultimately relies upon *In re Derailment Cases*, 416 F.3d 787, 794 (8<sup>th</sup> Cir. 2005) (“*Scottsbluff*”) to find preemption. In *Scottsbluff*, the Eighth Circuit looked at the “extent to which the adopted by the FRSA address freight car inspections.” *Mehl* at 8 (quoting *Scottsbluff*, 416 F.3d at 793). The court determined that it was “clear that the FRA’s regulations are intended to prevent negligent inspection” and “there is no indication that the FRA meant to leave open a tort cause of action to deter negligent inspection.” *Id.* at 9 (quoting *Scottsbluff*, 416 F.3d at 794). The court, consequently, held that negligent inspection claims are preempted by the FRSA’s regulations.

Nevertheless, what is most striking is the Court’s clear dissatisfaction with the current state of federal law and the outcome that it forced upon the victims of the Minot derailment. The court stated: “*While the Court is convinced the dismissal of Plaintiff’s claims is inevitable under the current state of federal law in the Eighth Circuit, this Court recognizes that such a result is unduly harsh and leaves the Plaintiffs with essentially no remedy for this tragic accident.*” *Id.* at 25 (emphasis added). The *Mehl* court attempted to explain its dilemma as follows, which is instructive and worth reiterating for the Congressional subcommittee:

While federal preemption often means that there is no remedy to a claimant, in many instances unfortunately this result is necessary to vindicate the intent of Congress. By pervasively legislating the field of railroad safety, Congress demonstrated its intent to create uniform national standards and to preempt state regulation of railroads. If state common law tort claims were permitted to proceed despite this Congressional intent, on the ground that the purported tortfeasor had in some way allegedly failed to comply with the federal standards, then manufacturers would inevitably be subjected to varying interpretations of the federal regulations in the different states. Inevitably, these tort actions would generate precisely those inconsistencies in railroad safety standards that Congressional action was intended to avoid.

*Id.* at 25-26 (quoting *Oulette v. Union Tank Car Co.*, 902 F. Supp. 5, 10 (D. Mass. 1995) (internal citation omitted)).

The court also expressed the concern that we are raising today to this Congressional subcommittee: The FRSA “fails to provide any method to make the injured parties whole and, in fact, closes every available door and remedy for injured parties. As a result, the judicial system is left with a law that is inherently unfair to innocent bystanders and property owners who may be injured by the negligent actions of railroad companies.” *Id.* at 26. As the *Mehl* court noted, “it is the province of Congress, not the judicial branch, to address this inequity.” *Id.* I hope that Congress will heed this statement duty and address this fundamental unfairness by amending the FRSA.

The *Mehl* court clearly relied upon the FRSA’s attempts at achieving national uniformity, emphasizing: “It is clear that Congress determined that there was a need for national uniformity

and a need to adopt standard federal regulations to protect the public rather than allow for varied and inconsistent state law remedies.” *Id.* However, the Supreme Court has determined that the importance of fostering uniformity among regulations does not warrant the wholesale elimination of an individual’s common law right to remedies for tort violations. In *Sprietsma v. Mercury Marine*, 537 U.S. 51, 54 (2002), the Court analyzed whether a state common law tort action is preempted by the Federal Boat Safety Act of 1971 (“FSBA”). The FSBA is akin to the FRSA because it contains very similar language with regard to restrictions on state laws, except the FSBA deals with manufacturing and the FRSA addresses railroad safety.

In support of its argument that the FSBA preempts the Petitioner’s claims, the Respondent, Mercury Marine, relied upon one of the FSBA’s main goals: fostering uniformity in manufacturing relations. *Id.* at 70. The Supreme Court responded that while uniformity is important to the industry, “this interest is not unyielding.” *Id.* The Court states that “the concern with uniformity does not justify the displacement of state common-law remedies that compensate accident victims and their families and that serve the Act’s more prominent objective, emphasized by its title, of promoting boating safety.” *Id.* The same principle should apply to the FRSA, as emphasized by its title.

#### **State Case Law Reiterates Presumption Against Preemption**

It is helpful to contrast the *Mehl* court’s decision with a recent Minnesota state court decision that was able to employ common sense and fundamental fairness to allow Plaintiffs to obtain a remedy in another case involving the Minot derailment. See *In re the Soo Line R.R. Co. Derailment of January 18, 2002 in Minot, ND*, Court File No. MC 04-007726, Supplement to Order on Motion to Dismiss on the Issue of Federal Preemption (Minn. Apr. 24, 2006) (“*Soo*”). In this case, the court also engaged in an extensive review of the federal preemption doctrine. However, this court focused on an established judicial principle that was curiously left out of the *Mehl* court decision – the “presumption against preemption.” *Soo* at 10-11. See, e.g., *CSX Transp., Inc. v. Easterwood*, 507 U.S. 668 (1993). In particular, the Supreme Court has said that the States’ historic power to regulate train safety must not be “superceded ... unless that [is] the clear and manifest purpose of Congress.” *Soo* at 10 (quoting *Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218, 230 (1947) (citations omitted)). The *Soo* court summarizes the federal preemption cases as “reluctant” to apply preemption “in recognition of the harsh results that can occur when legitimate claims are dismissed. *Id.*

In addition to federal and state court cases which emphasize the need to respect the states’ authority and notions of individual fairness, this court relied upon three key principles to determine that Plaintiffs’ claims would not be preempted by the FRSA:

- “The adequacy of problems and the local nature of the hazard itself result in an essentially local safety concern which is not even of a statewide character, much less capable of being adequately encompassed within national uniform standards.” *Id.* at 29.
- “Enforcement of Defendants’ own rules against them is not incompatible with federal laws, regulations, or orders.” *Id.* at 32.



- “These Plaintiffs’ claims are not preempted because they are necessary to eliminate or reduce an essentially local safety hazard. Allowing such claims to go forth would not be incompatible with a law, regulation or order of the U.S. Government. Nor would it unreasonably burden interstate commerce.” *Id.* at 34.

### **Resolving Challenges to Federal Government Oversight**

The FRA’s rail safety audit indicates that there has been an 11 percent increase in railroad grade crossing fatalities between 2003 and 2004. *Audit of Oversight of Highway-Rail Grade Crossing Accident Reporting, Investigations, and Safety Regulations*, Federal Railroad Administration, Report No.: MH-2006-016, at 2 (issued Nov. 28, 2005). Not only is it important to reduce the number of fatalities but it is also vital for victims to have a means for achieving appropriate compensation in the event of a railroad accident. The audit also clearly recognized that the possibility of collisions at grade crossings poses an increasing threat to the traveling public and presents many challenges for federal government oversight. *Id.* at 4.

The federal government cannot, and should not, be the sole body in charge of railroad safety. Likewise, federal courts cannot be the sole arbiter of rail safety cases. Public transportation authorities appear to be already overwhelmed by its responsibilities. In 2004, there were 243,016 grade crossings, of which 149,628 or 62 percent were maintained by public transportation authorities. *Id.* at 3. Yet, the federal government has been deficient in encouraging compliance with reporting requirements, investigating crossing collisions, and issuing violations for critical safety defects.

According to the FRA, railroads failed to report 21 percent of reportable grade crossing collisions to the National Response Center (NRC). *Id.* The FRA’s analysis showed that 115 collisions, which resulted in 116 fatalities, were reported to the FRA within 30 to 60 days after the collision, as required, but that was too late to allow Federal authorities to promptly decide whether to conduct an investigation. *Id.* at 6-7.

*Even more disturbing is the fact that the FRA investigated only 9 of the 3,045 grade crossing collisions that occurred in 2004, and from 2000 to 2004, the FRA investigated only 13 percent of the most serious crossing collisions that the railroads reported. Id.* at 7. Further, while the FRA may have been inspecting grade crossing warning signals for safety defects, the FRA recommended far too few violations for the many critical safety defects it identified. *Id.* at 8. From 2000 to 2004, the FRA recommended only 347 critical safety defects, or about 5 percent, of all defects to carry a monetary fine. *Id.* Clearly, the flawed railroad safety system needs to be fixed to ensure that railroads are held accountable for critical safety issues. One important step towards doing this would be to amend the FRSA to no longer allow for preemption of state law in cases involving railroad accidents.

### **Conclusion**

Many federal judges find that federal law preempts state common law tort actions involving railroad accidents. Yet, state law courts are not hampered by the FRSA and are able to allow victims to seek justice by focusing on the preemption against presumption and other applicable precedent. It is inconceivable that Congress would enact a law that would be

inherently unfair to innocent persons and property owners injured by the negligent actions of railroads who seek justice in federal courts. I submit that Congress did not do so in the FRSA.

STATEMENT OF  
THE HONORABLE JAMES L. OBERSTAR  
SUBCOMMITTEE ON RAILROADS  
HEARING ON  
“CURRENT ISSUES IN RAIL TRANSPORTATION OF HAZARDOUS MATERIALS”  
JUNE 13, 2006

Prior to this hearing, I reviewed the Department of Transportation’s data on incidents involving the transportation of hazardous materials across all modes. I was pleased to find that rail hazmat incidents have decreased from 1,112 in 1996 to 737 in 2005. Fatalities have remained somewhat stagnant, with the exception of 2005, when there was a spike in deaths due to the Graniteville accident. However, major injuries resulting from rail hazmat incidents are consistently the highest among all modes of transportation for each of the past 10 years, which tells me that while railroads are one of the safest ways to transport hazardous materials – certainly safer than moving them by truck – when there is an accident, the results can be catastrophic.

In 2005, a Norfolk Southern train derailment in Graniteville, South Carolina, resulted in nine deaths, 75 injuries, and the evacuation of 5,400 residents as a result of chlorine gas inhalation.

In 2004, a Union Pacific train collided with a BNSF train near Macdona, Texas. A tank car loaded with liquefied chlorine was derailed and punctured. The liquefied chlorine vaporized into a cloud of chlorine gas, and killed the conductor of the train and two nearby residents.

In 2002, a Canadian Pacific train derailed 31 of its 112 cars near Minot, North Dakota. Five tank cars carrying anhydrous ammonia catastrophically ruptured, and a vapor plume covered the derailment site and surrounding area, where 11,600 people lived. One resident was fatally injured,

11 people sustained serious injuries, and 322 people, including the two train crewmembers, sustained minor injuries.

As a result of these accidents, the National Transportation Safety Board (NTSB) issued several recommendations to the Federal Railroad Administration (FRA) and the railroad industry, some of which Congress incorporated into SAFETEA-LU, including a requirement that the FRA conduct a number of tank car vulnerability assessments and initiate a rulemaking to implement appropriate design standards for tank cars within 18 months of enactment.

SAFETEA-LU also included a requirement that railroads provide general awareness and familiarization training to maintenance-of-way employees and signalmen – something the industry fought me on since the mid-90s when we tried to reauthorize the hazmat program in TEA 21. SAFETEA-LU also included \$4 million a year in grants for nonprofit employee organizations to train hazmat employees and instructors.

It's time for the FRA and the railroad industry to do their part. After the Graniteville accident, the FRA issued a safety advisory, which urged railroads to review their operating rules and take certain steps to ensure that crews using manually operated switches leave the switches in the proper position when their work is complete. The advisory referenced rules already implemented by BNSF and Union Pacific requiring train crews to inform dispatchers of switch positions or inform them that switches had been properly relined before reporting that the main line track is clear.

The FRA advisory proved ineffective when a number of accidents involving improperly lined switches, including one in Florence, Minnesota, occurred after promulgation of the advisory.

In October 2005, the FRA issued an emergency order, which largely required what the previous safety advisory had recommended. The FRA added that any violation of the emergency order would result in a civil penalty of up to \$27,000.

FRA's emergency order was a good first step, but now we need to go beyond enhanced operating rules and additional forms to ensure that fatal accidents like the one in Graniteville are not repeated. The railroad industry is researching ways to improve tank car performance, but this is years away. What we need to do now is focus on how to prevent these accidents from happening.

We need to look at hours of service, which was an issue in the Graniteville accident, where the NTSB found that on 10 of the 30 working days before the accident, Train P22 crewmembers had spent time on paperwork after having been on duty for 12 hours in train or engine service. Any work, including paperwork, done on behalf of the railroad beyond the allotted 12 hours is considered a violation of the Hours of Service Act. The crewmembers of Train P22 weren't aware of that. Neither were Norfolk Southern's managers. Train crewmembers and managers at other railroads may also be unaware of that.

We need to look at requiring the railroads to install automatically activated devices, which clearly convey the status of the switch in both daylight and darkness, to capture the attention of employees involved with switch operations, as well as oncoming trains. In dark territory, we need to provide train crews with advance notice of switch positions.

We need to look at train speeds to ensure that train crews can stop trains safely in advance of misaligned switches. We need to look at the positioning of tank cars toward the rear of trains,

and at reducing speed through populated areas to minimize impact forces from accidents and reduce the vulnerability of tank cars.

We need to provide train crews with the equipment necessary to safeguard themselves when there are accidents involving hazardous materials, such as emergency escape breathing apparatus. The NTSB concluded that had the engineer of the derailed train in Graniteville – Chris Seeling – been wearing an appropriate, fully functioning emergency escape breathing apparatus when he walked away from the collision site, he might not have succumbed to the effects of chlorine gas inhalation. That was the same conclusion NTSB made in the Macdona accident, where the conductor died from inhalation of toxic chemicals.

And we need to make sure that railroad workers are getting the right kind of training to prepare them for the possibility of these catastrophic accidents. In Graniteville, had the engineer and conductor been trained or provided information that would have told them that chlorine gas is heavier than air and that it would seek the lowest point in the immediate area, they would have known not to lie down and maybe Chris Seeling (the engineer) would still be alive today.

I have reviewed the written statements the railroads submitted to the Subcommittee for this hearing, and I must say I'm disappointed. The railroads have come to Congress with an ultimatum: Either you limit our liability in accidents or we will do all we can to reduce the scope of our common carrier obligation. I quote: "Railroads should be permitted to decide for themselves whether to accept, and at what price they are willing to accept, such materials for transportation."

You mention some things that the industry has done to improve the safety of rail transportation of hazardous materials: voluntarily agreeing to special speed restrictions and inspections on some routes, providing fire fighters with response information, assisting communities with response plans, providing agencies with the top 25 hazardous materials running through communities, and working with the Transportation Security Administration (TSA) to prevent terrorism – all good things. You should be congratulated for those accomplishments. But it's not enough. Much more is required to ensure the safety of rail transportation of hazardous materials. I just listed some of the changes that need to be made, but I see no evidence in your testimonies that you are willing to do so.

That is also evident in your dealings with communities that are concerned about hazardous materials running through local towns – whether it's the District of Columbia or the City of Orr, Minnesota. In many cases, instead of working toward a solution that addresses the concerns of communities while ensuring the continued movement of goods, it's business as usual.

That is evident in your arguments before the courts in North Dakota and Minnesota that the Federal Railroad Safety Act preempts common law causes of action, thereby preventing those who were injured in the Minot accident from being justly compensated for their losses. Those cases could have severe repercussions for those injured in Graniteville.

That is evident in your efforts in labor-management negotiations to reduce the crew size on trains from two persons to one, which I believe is contrary to the objective of improving railroad and rail hazmat safety.

And that is evident in your proposals to this Subcommittee today. I don't need to remind you that it was the Federal Government – in the 19<sup>th</sup> Century – that created the rail industry in America in order to serve the public interest. Railroads got the land in which to run their rail lines. They got the mineral rights and the timber rights to log the woodlands to make railroad ties. They extracted ballast from gravel pits along the way to build the trackage. And they did that out of the public interest and the necessity to serve. In the law, rail carriers are required to provide any person, upon request, carrier's rates and other service terms. That is your duty, just as it is your duty to ensure that your operations are safe. Congress should not consider relieving you of your obligation to serve the public service if your rail cars, track, or other operations are not safe. And I will oppose any effort to do so.

Thank you, Mr. Chairman. I yield back the balance of my time.



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BEFORE THE  
UNITED STATES HOUSE OF REPRESENTATIVES  
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE  
SUBCOMMITTEE ON RAILROADS

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HEARING ON  
CURRENT ISSUES IN RAIL TRANSPORTATION  
OF HAZARDOUS MATERIALS

JUNE 13, 2006

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TESTIMONY OF  
THOMAS A. PONTOLILLO, DIRECTOR OF REGULATORY AFFAIRS  
BROTHERHOOD OF LOCOMOTIVE ENGINEERS AND TRAINMEN,  
A DIVISION OF THE RAIL CONFERENCE  
OF THE INTERNATIONAL BROTHERHOOD OF TEAMSTERS



Thank you Mr. Chairman, Madame Ranking Member, and Members of the Subcommittee. My name is Tom Pontolillo, and I serve as the Director of Regulatory Affairs for the Brotherhood of Locomotive Engineers and Trainmen, which is a division of the Rail Conference of the International Brotherhood of Teamsters. On behalf of more than 33,000 BLET members, 70,000 Teamsters Rail Conference members, and roughly 175,000 railroad workers who serve this nation's transportation needs, I want to express my appreciation to the Subcommittee for holding this hearing on current issues in rail transportation of hazardous materials, and for the opportunity to testify today.

During the 36-month period beginning in mid-January of 2002, three tragic accidents occurred involving the release of toxic by inhalation — or TIH — hazardous materials. The first, in Minot, ND, claimed one life, seriously injured eleven others, and resulted in the release of anhydrous ammonia. The second involved a collision between two trains near Macdona, TX, in which chlorine gas was released; additionally, there were three deaths — including 23-year old BLET member Heath Pape — and forty-one serious injuries. The third, also involving a collision resulting in a chlorine gas release, happened in Graniteville, SC, killing 28-year old BLET member Chris Seeling and eight others, as well as seriously injuring 75 people. I do not believe it is an overstatement to say that this issue is a personal one for me, as I am sure it is for many of the other witnesses who will appear before you.

Having said that, it is undeniable that our economy — indeed, our very lifestyle — is heavily reliant upon the many hazardous materials that chemical plants and refineries create and ship across the length and breadth of our nation. It is equally true that shipping hazardous materials by rail is the safest and most efficient and environmentally friendly transportation option available to us. For these reasons, and by virtue of the common carrier status of all railroads, it is incumbent upon us all to jointly find ways to minimize, if not eliminate altogether, the likelihood of another accident like the Minot, Macdona, and Graniteville tragedies.

My testimony today will touch on five general subjects that are of particular concern to the men and women I represent. They are: security, staffing, training, accident causation, and technological and operational concerns. The perspective that I present combines ground-level observations from the field with what we have learned at the staff level. My hope is that the Subcommittee's consideration of this subject will benefit from what the workers who have to deal with hazmat every day have to say.

While the general subject of rail security is a somewhat different matter than that under consideration by the Subcommittee today, it is very difficult to distinguish between safety and security in the post-911 world. Last year, the Teamsters Rail Conference published a report entitled *High Alert: Workers Warn of Security Gaps on Nation's Railroads*, which was immediately dismissed by the industry as bargaining propaganda. *High Alert* reports the results of a survey of BLET members — and members of Rail Conference affiliate Brotherhood of Maintenance of Way Employees Division — from 46 states and 34 railroads, between July of 2004 and June of 2005.

Of particular relevance to today's hearing are two facts: (1) of those surveyed, 59% reported that trains carrying hazardous materials passed their work area on a given day, and (2) 86% of

respondents stated that the rail yard where they work or report is in close proximity to schools, government buildings or densely populated areas. Indeed, these findings were corroborated in a report by the Centers for Disease Control entitled *Public Health Consequences from Hazardous Substances Acutely Released During Rail Transit*, which noted that hazardous materials “frequently are transported over, through, and under areas that are densely populated by schools, hospitals, or nursing homes, where the consequences of an acute release could result in environmental damage, severe injury, or death.”

Reasonable cause for concern over lack of security continues to exist. Just last Wednesday, the Akron, Ohio, *Beacon Journal* reported that two boys, ages 17 and 16, admitted to derailling two locomotives and 103 cars of a CSX train near Barberton, Ohio, by placing a tie on the track. Fortunately, that train carried only coal and, while tons of the coal were spilled, a far more serious outcome was averted. We have supported and will continue to support Congressional efforts — like those of the Ranking Member of the full Committee, in sponsoring H.R. 2351, and of Congressman Lynch’s H.R. 4372 — to address this concern.

The second issue I wish to highlight for the Subcommittee is staffing levels. Today, much of America’s rail network is operating near or at capacity. Further, the industry is moving more freight with fewer workers than at any time in its history. Productivity as measured by freight ton-miles-per-worker has soared over 500% between 1978 and 2004, and has increased by 24½% in the last five years alone.

With gasoline prices hovering around \$3 per gallon for the foreseeable future, and the nation’s highway system in a state of decline, the pressure on the industry to do more — and in less time — will only increase. Along with this increase in business opportunity comes an increase in risk: from physical equipment and plant that undergo increased stresses, from fatigued railroad workers pressed by increased demands on their time, and from greater congestion that results from running more trains over the same track during the same period of time.

Unfortunately, because of mergers and railroad managements’ never-ending quest to eliminate workers, staffing levels are at an all time low and continue to drop. Hiring barely keeps up with retirements, and serious recruitment and retention problems abound because the industry’s competitive advantage in the job market has all but disappeared. A 12- to 16-hour day is not unusual for a railroad worker, and in many cases is becoming the norm. As a matter of fact, according to 2006 hours of service data published by one of the four largest Class I railroads, through May 31<sup>st</sup>, an average of over 105 operating crews are on duty in excess of fifteen hours every day, with almost three crews per day on duty in excess of twenty hours.

There is no question in our minds that safety degradation because of fatigue is a ticking time bomb in the railroad industry. The National Transportation Safety Board has, on numerous occasions, pointed to crew fatigue as a potential contributing factor in an accident. The industry’s response has not gone nearly far enough, and — of late — at least the Class I carriers are moving backward. At a time when business is bursting at the seams, and more workers are needed in all crafts, the industry’s chief negotiator proposes to resolve its staffing shortages by

(1) combining all shop craft workers into a single composite mechanic, (2) contracting out all signal and maintenance of way work, and (3) eliminating all but one operating crew member.

The consequences of the industry's goals on safety would be dire, to say the least. The quality of both inspections and maintenance would decline dramatically, if the industry had its way, and a new, untested and unstudied method of operation would be introduced. Staffing, we believe, is very much a subject of interest for this Subcommittee, because the Railway Labor Act frequently deposits unresolved collective bargaining disputes on the doorstep of Congress, in the form of Presidential Emergency Board recommendations.

The rapid turnover now ongoing in the industry — fueled by the first wave of retirements of Baby Boomer generation railroad workers — also strains the industry's training programs for all crafts, which is the third subject I want to address today. We have concluded that the railroad industry simply does not devote sufficient resources either to providing initial training for new workers or for periodic retraining for more experienced workers. Far too often, training schedules are dictated by the need to deploy new workers in the field, rather than ensuring that those workers, and their more senior co-workers, have the necessary tools to work safely and efficiently.

Worker training in the handling of hazardous materials has been a particular sore point for the BLET, and for all of Rail Labor. The training provided by the industry is so minimal that we, long ago, took matters into our own hands. Hazardous materials training programs have been provided under labor sponsorship at the National Labor College, which is located at the George Meany Center in Silver Spring.

Our Railway Workers Hazardous Materials Training Program has been a resounding success. The program has, over its fifteen years, continually evolved and expanded to meet the training and competency needs of rail workers that are not afforded by the railroads. Initially offering only one course, the program now offers five. Training has moved beyond the conventional classroom to include simulation and on-line activities. A core of professionally trained instructors has been replaced with a corps of peer instructors. Because of this program, thousands of rail workers are trained every year and tens of thousands of rail workers are working more safely and in safer environments.

Since the onset of training in April 1991, the union-run program has trained more than 20,000 rail workers. Evolving from an 8-hour program of awareness training only, the National Institute for Environmental Health Sciences (NIEHS)-funded and George Meany Center-sponsored program now offers five courses: a 5-day Chemical/Emergency Response training in the classroom; an on-line Emergency Responder Awareness Level 101 course; the OSHA 10-hour General Industry Safety and Health Outreach Program; disaster site training; and the newest addition, a Radioactive Material Transportation Safety Program, which is funded by a separate grant from the U.S. Department of Energy.

The new program begins next month at the National Labor College, and will include a Modular Emergency Response Radiological Transportation Training — or MERRTT — “train the

trainer” course. By contrast, we are unaware of any railroad currently conducting training focusing on transportation of spent nuclear fuel and high-level radioactive waste, even though the Department of Energy is expected to begin a 38-year project to transport such waste from DOE sites to storage and disposal facilities as early as next year. The labor hazmat program has trained workers in 49 states and the District of Columbia. We also have fostered the creation of community partnerships that include joint rail worker, fire fighter, EMT, and public safety personnel training in communities throughout the U.S.

The program has a new emphasis on railroad security and disaster response and teaches the 5-day students how to serve as skilled support personnel in an incident command emergency setting. Much of the program material is available in Spanish and a comprehensive web site serves both the English and Spanish-speaking work force. The 5-day program addresses the training requirements of the Department of Transportation’s Hazardous Materials Regulations at 49 C.F.R. Part 172, as well as the requirements of OSHA First Responder and Operations Level training under 29 C.F.R. Part 1910.120. Railroads generally do not provide wages or support for workers attending the program. In fact, — and this is most unfortunate — members sometimes are not allowed time off from work to attend the program, even though the railroad is not paying wages.

The program currently serves eight rail unions,<sup>1</sup> and at least ten crafts,<sup>2</sup> from major railroads as well as from commuter and short-line railroads. This cross-company, cross-union, cross-craft training has proved invaluable, as one group learns from another. Each union has its own craft-specific tasks and challenges, and prior to this hazmat training program, there was little, if any, cross-union training. Hazards and challenges faced by those in the yards may be different than those faced by road train crews, and different still from those who work along the track or in the shops. Understanding the work of other crafts, the safety and health challenges that each face, and the coordination of each craft’s efforts in an emergency, enhances railroad hazardous materials safety and security. A well-trained and knowledgeable workforce is the first line of defense and can prevent a minor incident from becoming a major hazardous materials accident. The eight rail unions have worked together to enhance rail safety by providing comprehensive training to its members and by providing substantial administrative and personnel support to the union-run Railway Workers Hazardous Materials Training Program.

Labor has been able to offer these programs through a combination of federal funds and subsidies from the North American Railway Foundation, which is a private non-profit

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<sup>1</sup> Brotherhood of Locomotive Engineers and Trainmen (BLET); Brotherhood of Maintenance of Way Employees Division (BMWED); Brotherhood of Railroad Signalmen (BRS); International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers (IBB); SEIU’s National Conference of Firemen & Oilers (NCFO); Transport Workers Union (TWU); Transportation-Communication International Union (TCU); Brotherhood of Railway Carmen; and United Transportation Union (UTU).

<sup>2</sup> Brakemen, Laborers, Workers from the Building & Bridge Department, Signalmen, Carmen, Switchmen, Conductors, Track Department Workers, Locomotive Engineers, Yardmasters, and Hostlers.

organization. However, subsidies and contributions are hard to come by, as you can imagine. Nonetheless, we take great pride in having trained approximately 20,000 railroad workers since the program's inception. At the end of the day, though, this represents but a small fraction of the railroad workers who require thorough, in-depth training. Simply stated, the industry has to step up to the plate in a much bigger way when it comes to training, because the margin for error today is far smaller than it has been for a long time.

The fourth topic I want to touch upon is the canard that eliminating human-factor caused accidents will eliminate the problems. Proponents of this "blame the pin-puller" theory point to FRA accident data, which indicate that the most common primary cause of accidents and incidents is human error. However, focusing upon FRA data, alone, will lead us to miss a far bigger picture, for three reasons.

One is the fact that FRA's data provides only a partial picture. Not reflected in FRA data are incidents that fall below applicable reporting thresholds. Similarly unreported in these data are incidents that may occur at a facility, which may or may not be of minor consequence. For example, FRA data for the 13-month period from December 2003 through December 2004 indicate that human factors was shown as the primary cause in 61.22% of accidents on yard tracks involving hazmat, while equipment defects was shown as the primary cause in 3.79% of such accidents. However, in an article in the January 28, 2005 edition of its *Morbidity and Mortality Weekly Report*, the Centers for Disease Control reported that — of 1,165 "rail events" involving hazmat reported to the Hazardous Substances Emergency Events Surveillance ("HSEES") by 16 States between 1999 and 2004, for which a primary cause was determined — 61% resulted from equipment failure, and only 24% from human error. These two sets of data provide different pieces of the puzzle, but both are required in order to see the puzzle as a whole.

A second fact is that FRA's data summarizes reports filed by railroads and largely reflects causation as determined by the reporting railroad. Except for a relative handful of accidents, FRA has audited none of the data, because it lacks the resources to do so. Also, focusing on primary cause, alone, can lead one to miss a much larger, and potentially equally hazardous, problem. For example, the NTSB Report on the Graniteville accident specifically identified as a contributing factor the absence of a feature or mechanism to remind the crew of train P22 that a switch was not properly aligned. This finding was significant because (1) the task of properly aligning the switch was functionally isolated from other tasks the crew was performing, (2) the crewmembers were rushing to complete their work and secure their train before reaching their hours-of-service limits, (3) the crew had achieved their main objective of switching cars and were focused on the next task of securing their equipment and going off duty, and (4) the switch was not visible to the crew as they worked, leaving them without a visual reminder to properly align the switch.

In the absence of a Root Cause Analysis of one or more accidents, such underlying secondary or tertiary causes are not apparent from a review of FRA's data. Fortunately, performing root cause analyses of railroad accidents has become easier to accomplish in recent times. Just last month, FRA's Office of Research and Development published a report concerning its Root Cause Analysis of six accidents/incidents involving remote control locomotive operations. The HFACS

classification system originally developed for naval aviation mishaps was modified slightly to reflect operational differences between naval aviation and railroad operations, and the resultant HFACS-RR taxonomy was applied to the cases under review. This analysis uncovered organizational and supervisory factors that were present in nearly every case, and also that the technological environment was a significant contributor in all but one case.

We believe that safety of rail transportation of hazardous materials can be enhanced by conducting similar studies of both train accidents/incidents and other types of hazmat events. As technology plays an increasing role in every aspect of hazmat transportation, it becomes ever more difficult to ascertain any but the most obvious causes of an accident. Proper investigation of accident causation, via a Root Cause Analysis, should be a cornerstone of any risk management system, and is worth the extra cost such an undertaking would create.

The third fact is that — even according to FRA’s raw data — the primary cause in nearly two of every five hazmat accidents in yards is other than human factors. Track defects account for 15%, and “miscellaneous” for almost 14%. Rigorous analysis of these types of accidents also is called for, and a similar review of hazmat accidents on other than yard tracks also should be undertaken. We firmly believe that such analyses should precede any legislative or regulatory action, to ensure that the job is done properly the first time.

As you may recall, the NTSB determined the probable cause of the Minot accident and resultant release of TIH anhydrous ammonia was an ineffective inspection and maintenance program that did not identify and replace cracked joint bars before they completely fractured, which led to the breaking of the rail at the joint where the derailment occurred. FRA’s Railroad Safety Advisory Committee, of which I am a member, has established a Continuous Welded Rail Working Group, and FRA is keeping all stakeholders focused on addressing this shortcoming. This Working Group, in a short period of time, has accomplished much, and I am confident everyone will be pleased with the results of the process.

Lastly I would like to address a few technological and operational considerations that impact rail transportation of hazardous materials. You will hear during this hearing about Positive Train Control — or PTC — from numerous witnesses. You may even hear about a time in the future when PTC will eliminate all accidents caused by human error, and be invited to infer that this time may not be far away. I would respectfully suggest that you should be both inquisitive and skeptical concerning such claims.

Our experience over the past quarter century with the introduction of new technologies in the railroad industry demonstrates that: (1) initial claims of the utility of the technology tend to be overblown; (2) the industry tends to limit its implementation to those features that produce economic savings, and only addresses potential negative safety implications when forced to by FRA; and (3) the industry tends to use technology at or beyond its design limitations unless proscriptively restricted by FRA. Thus, FRA must be a proactive watchdog for safety at every step of the implementation of new technology.

Fortunately, FRA has established a solid foundation for the development, testing and implementation of PTC systems through promulgation last year of Subpart H to Part 236 of Title 49 of the Code of Federal Regulations, which sets forth the standards for development and use of processor-based signal and train control systems. Rigorous and transparent testing protocols are mandated, and the performance standards incorporated into the rule should ensure that no degradation of safety occurs as a result of PTC implementation.

Indeed, it is the position of Rail Labor that — with adequate investment and proper planning — PTC systems can be built to serve the needs of the general freight rail system as well as inter-city and commuter passenger railroads. The proper implementation of PTC systems can help reduce accidents and, therefore, mitigate if not eliminate many hazardous material releases associated with train accidents. We further believe that the nation's rail industry can realize the greatest safety benefits by utilizing PTC systems in conjunction with the existing signal systems. Current signal circuits provide fail-safe "vitality," while PTC provides just what its name implies: positive train control and separation.

At the present time, PTC is in an embryonic stage. While they hold some promise, none of the few systems that are being tested over small territories actually contain all three core features by which PTC is defined: positive train separation, speed restriction enforcement, and positive enforcement of roadway worker protection zones. Moreover, these new technologies cannot be viewed as a panacea for the railroad industry. PTC and the next generation signal systems are tools to improve and enhance safety and security across the nation's railroads. They are not the "end-all" and they are not, in their present form, fail-safe or even remotely infallible. Even after implementation, it still will require the concerted efforts of the maintenance of way worker who installs the track, the dispatcher who controls the train movements, the signalman who maintains the integrity of the system, and the train crew who operate the train, to provide increased safety and security on our nation's railroads.

Because of the proven safety benefits of present-day signal systems, it is imperative that these systems are properly maintained and remain in operation. However many railroads have petitioned the FRA through the Block Signal Application provisions of current regulations to remove signal systems and convert their method of operations to Dark Territory using Direct Traffic Control, or DTC. Eliminating current signal systems only increases the likelihood of catastrophic hazardous material events when an accident occurs.

Rail Labor opposes elimination of existing signal systems because of the well-documented safety benefits afforded by these types of signal operation. Clearly, it is in the best interest of residents of communities throughout America to have the assurance of rail operations based on the protection provided by a signal system. The Graniteville tragedy provides a good example of the continuing value of traditional signal systems. The segment of track where the accident occurred lacked wayside signals, and the method of operation was DTC. A basic signal system would have prevented this accident. Even a switch monitoring device would have informed Brother Seeling's crew that the hand-operated switch was not properly lined and the train would have received a signal indication to stop the train. Switch monitoring devices provide this level of



protection from dangers caused by human error — as was the case at Graniteville — as well as from hazards posed by acts of vandalism.

We also must be mindful of the fact that, regardless of the promise a fully developed PTC system holds, new technology brings with it new problems. Two such problems already identified with respect to PTC is crew distraction caused by monitoring PTC information displays, and over-reliance upon PTC that leads to degradation of train handling skills. We must be forever diligent to ensure that any new technology the railroad industry implements does not introduce more new hazards than it eliminates. Accordingly, Rail Labor firmly believes that there continues to be a long-term need for switch monitoring in Dark Territory in order to prevent accidents caused by misaligned switches.

We also believe — for both safety and security reasons — that hazardous materials emergency response plans should be developed among railroads, municipalities and states. While civil authorities already have plans in place to deal with hazmat situations, I can tell you that train crews and other railroad workers are neither familiar with nor trained in them. However, railroad workers often are the earliest “on-the-scene” personnel to interact with first responders to a hazmat accident. Therefore, we support including railroads in the development of such emergency response plans, and strongly advocate that affected railroad workers receive training concerning those plans, so that they provide appropriate assistance consistent with protecting their own personal safety, at the very time when minutes — and even seconds — can mean the difference between life and death.

One tool in an emergency response plan that includes the railroad can be something that is increasingly found at the nation’s highway/rail grade crossings. Rail Labor has long recommended that a nationwide toll-free telephone reporting system be developed to allow the public to report grade crossing signal malfunctions. Although this system is not presently required by regulation, many Class I railroads have voluntarily implemented some type of 1-800 notification system, but most Class II, Class III, and/or short line railroads have not. Interestingly, but not surprisingly, the public frequently utilizes these toll-free systems to report varied railroad conditions, in addition to malfunctioning grade crossing signals. Establishment of a nationwide toll-free telephone notification system, and incorporation of that system in a railroad’s hazmat emergency response plan, can provide a powerful yet relatively inexpensive tool for the public to report derailments or other events that affect safety and security on railroad property.

In 2006, addressing rail transportation of hazardous materials also necessarily includes consideration of issues raised by the transportation of spent nuclear fuel and high-level radioactive waste. As I previously noted, DOE is on the verge of embarking upon a 38-year plan to relocate SNF and HLW to central locations. Because of litigation, it may develop that each load must be moved twice. There is no question that the safest and most efficient means of transporting SNF and HLW is by rail.

The extent to which these materials are currently transported is minuscule when compared to DOE’s projections for the future. A thorough and careful review of existing regulations is necessary, because they were crafted for what is in many ways a different industry. Work on

preparing the industry has begun. In fact, FRA has studied various operational options and has concluded that SNF and HLW should be shipped via dedicated trains, a conclusion we wholeheartedly support. At the same time, however, much more needs to be done. For example, at the present time, train crews who will operate these trains may be exposed to higher doses of radiation than even nuclear power plant workers. Moreover, no requirements or standards currently exist for monitoring railroad workers' exposure to SNF and HLW.

The BLET participates in DOE's Transportation External Coordination Working Group and has been a vocal supporter of standards that provide appropriate protection both for railroad workers and for the communities through which SNF and HLW trains operate. We will continue to devote necessary resources to this endeavor. This issue is an important one for the Subcommittee, we believe, because the "change in the mix" that will result from a substantial increase in SNF and HLW heightens the importance of the other issues we have raised here today.

In summation, then, we believe there are a number of issues related to rail transportation of hazardous materials that deserve the Subcommittee's attention. To the extent that security and safety are intertwined, we urge the Congress to continue to work toward legislation that will enhance security on the nation's railroads.

As the successors of the Baby Boom generation of railroad workers are being integrated into the industry, severe challenges with respect to both staffing levels and worker training have arisen; challenges that could negatively impact safety. We will continue to lead the fight for the sufficiently-sized and trained workforce that is necessary to improve industry safety, and we urge the Subcommittee to hold the industry's feet to the fire, particularly concerning hazmat training.

We ask the industry to — once and for all — acknowledge that accident prevention only begins, rather than ends, with pointing the finger of blame at the last human being who made a mistake. We believe FRA should conduct Root Cause Analysis of a representative sample of hazmat accidents prior to undertaking any regulatory action concerning hazmat operating procedures, whether at its own initiative or in response to legislation sponsored by this Subcommittee. And we urge the Subcommittee to support adequate funding for FRA to accomplish any goal you may set.

We also caution that PTC is far more a glimmer in the industry's eye than a bright new dawn that is on the horizon. The technology is in its earliest testing stages, and one core feature has not even been field-tested yet, to our knowledge. For at least the foreseeable future, existing signal systems will continue to provide the cornerstone for safe operations, and switch monitoring devices are necessary for Dark Territory operations.

Railroads and the communities through which they operate should share a common plan for emergency response to hazardous materials accidents, and railroad workers — who are on the front line of the operation — should be conversant with those plans. This is even more critical as DOE ramps up shipments of spent nuclear fuel and high-level radioactive waste, a subject that should receive increased attention from all stakeholders.

Once again, I thank the Subcommittee for inviting and hearing me today, and would be pleased to address any questions you may have.

STATEMENT of Rep. JON PORTER (R-NV)  
House Transportation and Infrastructure Committee  
Subcommittee on Railroads  
June 13, 2006

Mr. Chairman, I thank you for holding this hearing today on the current issues in rail transportation of hazardous materials.

As this committee reviews the issues surrounding the Transport of hazardous materials, we must ensure that the safety of our constituency is foremost on our minds. The residents of Nevada are in a unique position when considering the transport of hazardous materials, as the state is the designated dumping ground for our nation's nuclear waste, at the Yucca Mountain Repository. Yucca Mt. is only 90 miles away from the fastest growing region in the nation, Southern Nevada.

According to the Department of Energy (DOE), the Yucca Mountain Repository is slated to hold over 77,000 metric tons (this includes commercial and defense spent fuel as well as high-level radioactive material) of nuclear waste that is presently held at commercial reactors nationwide.

Transporting the nation's nuclear waste to Nevada would impact 43 states and 109 cities with populations over 100,000. The amount of nuclear waste shipped to Yucca Mt. in its first full year of operation would exceed the total amount of nuclear material shipped in the United States in the past 30 years. The DOE calculated that between 70 and 310 transportation accidents and over 1,000 incidents would be expected over the operating life of the repository with a rail accident rate of 11.9 accidents per million shipment miles. If only a small fraction of a shipping cask's contents were to leak it could contaminate a 42 square mile area and cost over \$620 million to cleanup.

As today's witnesses discuss the transport of hazardous material on our nation's rail system, I ask them to consider, the impacts of transporting nuclear waste and the potential devastation to our communities if an incident were to occur. The impact of transporting nuclear waste, via rail, will disproportionately affect Nevada more than any other state and I want to ensure that we consider every option. We must ensure that we have a system in place to address the liability concerns that could arise in the event of a nuclear disaster.

I am extremely interested in hearing the comments from my fellow subcommittee members as well as the testimony from the witnesses. I yield back.

**Statement of Representative Jean Schmidt**  
**Before the House Subcommittee on Railroads**  
**Hearing on Rail Transportation of Hazardous Materials**  
**June 13, 2006**

Mr. Chairman, thank you for holding this hearing on the shipment of hazardous materials by rail, and exploring ways we can make the transport of such materials even safer.

As you know, last August, a tank car carrying the time sensitive chemical styrene was not delivered to its final destination, and apparently sat on the same railroad for seven months in my Congressional district. The stabilizing agent in the styrene expired, causing a reaction that led to an unintended release of the styrene, and an evacuation of the surrounding area for several days.

Under your leadership, Mr. Chairman, we worked with the Federal Railroad Administration (FRA) to improve procedures for tracking the rail shipment of time-sensitive hazardous materials.

I am pleased that we are seeking additional ways to reduce the risk of shipping hazardous cargo by rail and make our surrounding communities safer. I look forward to continuing our work on this important issue.



**STATEMENT OF**  
**THOMAS D. SIMPSON**  
**EXECUTIVE DIRECTOR - WASHINGTON**  
**RAILWAY SUPPLY INSTITUTE, INC.**

**BEFORE THE**  
**UNITED STATES HOUSE OF REPRESENTATIVES**  
**COMMITTEE ON TRANSPORTATION & INFRASTRUCTURE**  
**SUBCOMMITTEE ON RAILROADS**

**HEARING ON THE**  
**CURRENT ISSUES IN RAIL TRANSPORTATION**  
**OF HAZARDOUS MATERIALS**

**JUNE 13, 2006**

Mr. Chairman, thank you for the opportunity to speak today on the important issue of improving the safety and security of the movement of hazardous materials by rail.

My name is Tom Simpson; I am Executive Director – Washington of the Railway Supply Institute (RSI). RSI is the international trade association of the rail and rail rapid transit supply industry. RSI was formed in 2002 when the Railway Progress Institute (RPI) and the Railway Supply Association consolidated. I am here on behalf of the RSI's Committee on Tank Cars (RSI-CTC) which, through RPI and now RSI, has represented this industry for more than fifty years. The RSI-CTC represents companies that manufacture virtually all the tank cars operating in North America and also, own, manage, and full service lease 180,000 tank cars or approximately 70% of the nation's tank car fleet. The RSI-CTC has a long history of proactively and cooperatively working with railroads, shippers, and the federal government to implement improvements in the safety, and security of hazardous materials transportation by rail.

In 1970, RPI joined with the Association of American Railroads (AAR) to create the Railroad Tank Car Safety Research and Test Project. The mission of the project is to collect and analyze data relative to the performance of tank cars in derailments and to use this data to support research to improve tank car safety. Since 1970, RSI and AAR have invested more than \$20 million in the Safety Project while investing more than \$700 million in safety improvements to the tank car fleet.

**II. Safety Record**

These joint efforts have helped make rail the safest mode for transporting these vital raw materials. Industry statistics show it is 16 times safer to move hazmat by rail than by highway. Approximately 1.7 million carloads of hazardous materials are transported by rail throughout the United States each year, and 99.998% of these shipments reach their destination without a release caused by an accident. Since 1980, railroads have reduced the overall hazardous materials accident rate by 90%, and since 1990 it has been reduced by 49%.

**III. Continuous Improvement of Tank Cars**

The reduction in accidental releases of hazardous materials has been driven in part by continuous improvements in tank car design and materials, and the RSI-CTC fully supports continued efforts to improve the tank car package. The RSI-CTC and its individual member companies have been active partners in the continuous improvement of tank car designs and materials. We have actively worked with the U.S. Department of Transportation, the Pipeline and Hazardous Materials Safety Administration (PHMSA), the Federal Railroad Administration (FRA), and AAR to install shelf couplers that help to prevent puncturing of tank cars in a derailment, head shields to protect against head punctures, and thermal protection that keeps the tank's lading cool enough to delay or prevent tank failures in fires. In addition, improved bottom fittings protection, stronger steels, and improvements to pressure relief devices have been implemented.



#### IV. Improving Safety and Security of Rail Transportation of Hazardous Materials

RSI-CTC, along with representatives from railroads, shippers and railroad unions, recently participated in PHMSA and FRA's public hearing to review the design and operational factors that affect rail tank car safety. Our comments today are similar to those we offered at that meeting, with the addition of comments regarding rail security.

1. **First:** An important step toward improving rail safety, which we believe was started at the above referenced meeting, is for PHMSA and FRA to take a more active leadership-role in the effort to improve safety. PHMSA and FRA are uniquely positioned to insure an open, transparent, unbiased and comprehensive process is used to create any new safety standards.
2. **Second:** We believe rail safety improvement efforts should be based on a comprehensive analysis of rail hazmat risks that looks at all aspects of the rail system. Safety improvement efforts should explore railroad operating practices, shipper commodity handling practices, emergency response procedures, and tank car design improvements. FRA's Railroad Safety Action Plan, which focuses FRA's resources on areas that have been identified as the greatest safety concerns and accelerates research efforts that have the potential to mitigate the largest risks, is an example of the kind of comprehensive approach that should be used. RSI-CTC supports implementation of FRA's plan, and is prepared to assist in its implementation where appropriate.

**3. Third:** Any changes to car designs should be *driven by sound science and engineering*. The recently initiated AAR Tank Car Committee dockets, intended to reduce the probability of release of chlorine or anhydrous ammonia, are first steps toward improvement in the safety of shipping those commodities. RSI-CTC member companies are actively participating in those task forces. The work of those task forces must be coordinated with the critical research FRA has undertaken, at the direction of Congress, on derailment forces and steels, as passed in SAFETEA-LU. The results of these studies are critically important because they provide facts about the real world conditions in which the cars operate, and they should be completed prior to deliberation on any future car designs. While we agree that time is of the essence when dealing with matters of safety, we also want to make sure that the process provides the best possible solutions. We are concerned that design specifications developed as a result of the current accelerated AAR docket approach will not take this research into account, and may be superseded or contradicted once this additional FRA research data is evaluated.

**4. Fourth:** *Initiatives to improve security of shipping hazardous materials by rail should be coordinated between DOT and DHS to ensure prioritized action items can be effectively implemented. Also, funds for research and implementation of technologies to reduce tank car vulnerabilities should be granted.* RSI-CTC, in conjunction with the AAR and shippers, continue to participate in a project with the Departments of Homeland Security and

Transportation to identify materials that will protect tank cars carrying poison-by-inhalation commodities from a specified ballistics assault by terrorists. This group is working with the Naval Surface Warfare Center to develop a test plan to evaluate materials that will prevent the penetration of a tank car or, alternately, to seal a commodity leak if the tank is penetrated. The test plan has been completed and materials evaluations should begin shortly. A word of caution, if it is decided that such a material should be applied to tank cars, designs would need to be changed to incorporate the additional weight and thickness of the material.

In summary, RSI-CTC firmly believes that actions to improve hazardous material rail transportation safety should be coordinated through PHMSA and FRA, who are positioned to ensure an open, transparent and unbiased process is used. PHMSA/FRA led safety improvement initiatives should be comprehensive, so that all factors involved can be properly evaluated and priority can be given to reducing the highest risks. Proposed changes to railcars should be based on sound engineering and fully validated against specific, real world conditions in which cars operate, using research already underway at FRA. Finally, initiatives to improve security of rail transportation of hazardous materials should be coordinated between DOT and DHS.

The members of the RSI-CTC are prepared to immediately work with Congress, PHMSA, FRA, the AAR, and other key participants in this process to

quickly and appropriately improve the safety of our nation's rail transportation network. We appreciate the opportunity to provide our recommendations on the most effective means of achieving this important goal.

**TESTIMONY OF RICHARD F. TIMMONS, PRESIDENT  
AMERICAN SHORT LINE AND REGIONAL RAILROAD ASSOCIATION**

**BEFORE THE  
RAILROADS SUBCOMMITTEE OF THE HOUSE TRANSPORTATION AND  
INFRASTRUCTURE COMMITTEE**

**June 13, 2006**

Good morning Mr. Chairman and Members of the Committee. I appreciate the opportunity to comment on the status of hazardous material movement in the Class II and III railroad industry. As this committee is well aware the short line industry operates over approximately 50,000 miles of right away in 49 states relying on 23,000 railroaders to move freight each day. Each month short lines handle about 300,000 carloads of hazardous materials. The vast majority of these products are not toxic by inhalation, and short lines are by no means the primary mover of these commodities across the nation's transportation system. But for the communities we serve these products are essential to the health and well being of their citizens and are only available through rail freight movement.

The short line and regional railroad record of HazMat transport is excellent. The U.S. Department of Transportation Hazardous Materials Information System indicates for 2004 and 2005 that no short line railroad has been responsible for any fatalities, injuries, or hospitalizations resulting from a hazardous materials release. Since 1973 FRA has recorded one hazardous material related fatality on a short line and that fatality involved an unauthorized rider on a freight train.

Needless to say we take this matter very seriously and we continue to strive for improvement and reduced exposure for crews, communities and responders. We believe our commitment to educate our personnel and maintain rigorous adherence to industry safety and technical standards has facilitated these solid statistics.

For short lines several areas are essential to the safe and efficient movement of hazardous material.

First our infrastructure must be sound—rail, road bed, bridges and signals must be continually improved. The federal tax credit you approved in 2004 has allowed short lines to increase investment which is improving our track structure and enhancing our network. As I have discussed with this committee in the past the tax credit is accomplishing exactly what was intended and we hope the Congress will see fit to extend it before it expires at the end of next year.

Second, car availability is critical—much of the current equipment is aging quickly. Reliable and robust HazMat cars must be up to the challenges of long and hard service and reliable in all circumstances.

Third, tracking HazMat shipments is essential in the event man made or natural disasters threaten to expose the contents of these cars to emergency responders or unwary citizens. A recently introduced computer tracking system now gives the short line industry the ability to track and report shipments by commodity, railroad and location in real time to computer terminals in the FRA, AAR and ASLRRA. This was an area of weakness for us in the past and we have devoted considerable time and effort to addressing this need. The new system, known as Frieghtscope, gives us the ability to provide on-demand information very similar to Class I operations.

Fourth, security must a part of every day operations and procedures in a more comprehensive way than ever before. Reporting, tracking, communications, rapid response and preparation for a terrorist strike or accident must be part of what we do and train for each day.

Short lines have worked steadily since 9/11 to prepare for the unexpected. I will not repeat here but have listed in my written statement nine activities that ASLRRA has engaged in since 9/11.

- Gained membership on the AAR Bureau of Explosives Committee and assisted in implementation of safe hazmat practices through OT-55 transportation order.
- Spearheaded development of Freightscope hazmat tracking software which is being implemented as a public-private partnership between ASLRRA, AAR, FRA and Railinc.
- Developed state-of-the art hazmat quick-reference card to assist supervisors, T&E personnel and other responsible parties in responding to a possible or actual hazmat incident.
- Partnered with TSA and FRA to establish best practices for handling TIH traffic.
- Established weekly system for monitoring time-sensitive hazmat loads and have headed off several such carloads from becoming unstable.
- Participated on TTCI-sponsored task force to promote emergency responder training and related involvements.
- During Hurricane Katrina, assisted FRA, state and local authorities in determining extent of hazmat danger on short line railroads in affected areas.
- Participated with Norfolk Southern and other Class I railroads in developing and distributing four-part hazmat handling module, "Securing North America's Railroads." The training modules include: What is Security; Vulnerability & Risk; What to Look For; Your Role.

- Organized the ASLRRA Policy Committee which has progressed development of hazmat security programs and exhibits designed to make membership more aware of hazmat security and what they need to do to make their railroads more secure.

Certainly, there is much more that can and should be done and I know determining those next steps are part of what is driving this hearing today. The short line railroads stand ready to work with the Congress and the industry to take whatever next steps are deemed appropriate and necessary.

I would be happy to answer any questions.

**STATEMENT OF HON. DON YOUNG  
RAIL SUBCOMMITTEE HEARING:  
CURRENT ISSUES IN TRANSPORTATION  
OF HAZARDOUS MATERIALS BY RAIL  
JUNE 13, 2006**

**THANK YOU, MR. CHAIRMAN, FOR CALLING THIS  
VERY IMPORTANT AND TIMELY HEARING. MY  
CONTINUING CONCERN IS MAKING SURE OUR  
TRANSPORT SYSTEM KEEPS UP AND HELPS, RATHER  
THAN HINDERS THE VITALITY AND GROWTH OF OUR  
ECONOMY. HAZMAT SHIPMENTS AND THE  
LIABILITY EXPOSURE THAT COMES WITH THEM  
THREATEN TO FORCE A CHOICE BETWEEN HAVING  
COMMODITIES THAT ARE VITAL TO OUR ECONOMY  
AND OUR SOCIETY, OR FORCING THE COMPANIES  
THAT TRANSPORT THESE MATERIALS OUT OF  
BUSINESS AS A RESULT OF A SINGLE ACCIDENT.**

**I DO NOT THINK ANY TRANSPORTATION SYSTEM  
CAN SURVIVE IN AN ENVIRONMENT WHERE A**



**CARRIER IS FORCED TO “BET THE COMPANY” FINANCIALLY EACH TIME IT ACCEPTS A SHIPMENT OF HIGH-HAZARD MATERIALS. THIS IS SUCH AN ACUTE PROBLEM THAT I HAVE MENTIONED ON SEVERAL OCCASIONS THE POSSIBILITY THAT THESE COMMODITIES MIGHT HAVE TO BE REMOVED FROM THE COMMON CARRIER OBLIGATIONS OF RAILROADS, NOT BECAUSE THAT WOULD BE A VIABLE LONG-TERM SOLUTION, BUT TO GET THE ATTENTION OF ALL WHO HAVE A STAKE IN THIS ISSUE.**

**WHO HAS A STAKE IN THIS PROBLEM? EVERYONE WHO DRINKS WATER TREATED WITH CHLORINE, WHO USE VARIOUS TYPES OF PLASTICS, OR EATS FOOD GROWN WITH CHEMICAL FERTILIZERS. IN SHORT, EVERY ONE OF US. WE MUST MAINTAIN THE**

**FLOW OF THESE VITAL BUILDING-BLOCKS OF OUR ECONOMY AND OUR SOCIETY.**

**I HOPE THAT TODAY'S HEARING WILL AVOID ANY TENDENCY TO FIX BLAME FOR ANY PROBLEMS THAT HAVE ARISEN, AND WILL FOCUS INSTEAD ON IDENTIFYING THE VARIOUS ASPECTS OF THIS PROBLEM. I HOPE THAT TODAY'S HEARING CAN BE THE BEGINNING OF A COMPREHENSIVE NEGOTIATION AMONG THE STAKEHOLDERS TO FASHION A SOLUTION THAT TAKES ALL LEGITIMATE INTERESTS INTO ACCOUNT.**

**THANK YOU AGAIN, MR. CHAIRMAN, FOR PROVIDING A FORUM IN WHICH TO EXAMINE THIS CRITICALLY IMPORTANT ISSUE.**



National  
Corn Growers  
Association  
www.ncga.com

July 7, 2006

The Honorable Steven LaTourette  
Chairman  
Railroad Subcommittee  
House Transportation and Infrastructure Committee  
2453 Rayburn House Office Building  
Washington, D.C 20515

Dear Chairman LaTourette:

On behalf of the National Corn Growers Association (NCGA), I extend my gratitude to you for scheduling a subcommittee hearing on June 13, 2006, regarding current issues with rail transportation of hazardous materials.

NCGA was founded in 1957 and represents more than 33,000 dues-paying members from 48 states. Corn growers appreciate your time and attention on this important issue and submit our comments for the hearing record.

Science, research and best management practices for food production allow farmers to produce about three times as much food on virtually the same land area under cultivation as in 1960. We are also feeding twice the population.

With each crop harvest, nutrients are removed from the soil and consumed in the food we eat. Without replenishing the soil, it becomes less productive and more susceptible to erosion and desertification. With only 3% of the earth's surface suitable for food production, the protection of soil allows farmers to meet the challenge of the future.

Conventional farming practices and commercial fertilizers such as anhydrous ammonia have helped feed and provide for a growing ethanol industry that will reduce our nation's dependence on foreign oil. Anhydrous ammonia is the most efficient source of nitrogen for farmers and is the primary ingredient in most all other nitrogen fertilizers.

The historical safety record of anhydrous ammonia transportation by rail has been achieved over the years by working in a cooperative effort with the railroads and tank car manufacturing and leasing companies. Unfortunately, that cooperation seems to have fallen by the wayside.

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Recently, the safety of tank cars carrying anhydrous ammonia has been questioned by the Association of American Railroads (AAR). We support the continued safe transportation of anhydrous ammonia and have worked with our fertilizer industry partners to ensure it is shipped in the safest manner possible. However, we echo the concerns raised by The Fertilizer Institute in their June 21, 2006, letter for submission into the subcommittee hearing record regarding the AAR tank car proposal.

Most anhydrous ammonia is delivered to agricultural retailers and farmers by rail, typically on secondary tracks. Yet, the AAR proposes to make tank cars heavier which likely will make transportation on these secondary tracks less feasible.

Fertilizer prices are increasing due to the high costs of natural gas – the key feedstock in the production of nitrogen fertilizer. Additionally, farmers continue to be hit hard by the increases in transportation costs both in receiving their inputs and marketing their final product. AAR proposals to redesign and replace all tank cars carrying anhydrous ammonia within the next 5-7 years would further increase our costs and potentially impact the deliverability of fertilizer to where it's needed – farm country.

In recent testimony, AAR's President and Chief Executive Officer Ed Hamberger states that the railroads' liability is just too great to continue carrying products such as anhydrous ammonia but they do so only because of their common carrier obligations. He recommended that companies should consider switching to "safer alternatives." Mr. Hamberger fails to realize that there is no substitute for anhydrous ammonia in the production of nitrogen and phosphate fertilizers. It is a necessary component. This line of reasoning would be akin to requiring the rail industry to operate without diesel. Farmers and fertilizer retailers have built their facilities and purchased application equipment based on their ability to use ammonia. It is still the cheapest and most effective form of nitrogen fertilizer available.

Instead of passing the blame and economic burden to shippers and ultimately America's farmers, we recommend that the congressionally mandated study (as prescribed by the highway bill passed last year) which is now underway at the Volpe Institute be completed before the rail industry demands costly changes. The study calls for the development of a model to quantify the relevant dynamic forces acting on railroad tank cars under accident conditions and calls for the Federal Railroad Administration (FRA) to initiate a rulemaking to develop and implement appropriate design standards for pressurized tank cars.

Corn growers appreciate your interest in this issue and are ready to serve as a resource should you have additional questions or concerns regarding this important issue.

Sincerely,



Gerald Tumbleson  
President



## The Fertilizer Institute

Nourish, Replenish, Grow

Ford B. West  
President

June 21, 2006

The Honorable Steven LaTourette  
Chairman  
Railroad Subcommittee  
House Transportation and Infrastructure Committee  
2453 Rayburn House Office Building  
Washington, D. C. 20515

Dear Chairman LaTourette:

Thank you scheduling a subcommittee hearing on June 13 regarding current issues in the rail transportation of hazardous materials. We appreciate you focusing attention on this important issue and submit our comments for the hearing record.

The Fertilizer Institute (TFI) is a Washington, D.C. based national trade association and is the leading voice in the fertilizer industry, representing the public policy, communications and statistical needs of manufacturers, wholesalers, retailers, importers and transporters of fertilizer.

TFI members are the major shippers and receivers of anhydrous ammonia. Anhydrous ammonia is the most efficient source of nitrogen for farmers and is the primary ingredient in most all other nitrogen fertilizers. Nitrogen is a necessary plant nutrient. Anhydrous ammonia shippers and receivers are dependent upon railroad tank cars to meet the transportation needs of our farmer customers and the consumers that benefit from the food and other finished products that ammonia helps produce.

Recently the safety of tank cars carrying anhydrous ammonia has been questioned by the Association of American Railroads (AAR). The continued safe transportation of anhydrous ammonia is in the best interest of TFI members and we are working on several fronts to ensure that our members continue to ship anhydrous ammonia in the safest manner possible. TFI would like to outline a few initiatives its members have taken to improve the safe transportation by rail of anhydrous ammonia:

- (1) Following the Minot accident and the NTSB findings regarding non-normalized steel tank cars, TFI members have implemented an accelerated phase-out of these cars;
- (2) Newly leased tank cars have included additional dome security features which restrict access to valves;
- (3) We are focusing on the reduction of non accidental releases (NAR's) from ammonia tank cars by improved valving, increasing safety valve requalification, and enhanced loading and release to railroads; and

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Washington, DC 20002

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www.tfi.org

- (4) We are providing training on the safe handling and security of ammonia to customers and first responders.

Mr. Chairman, these are just a few examples of improvements that TFI members have made and will continue to make to ensure the safest transportation in rail tank cars carrying anhydrous ammonia.

The historical safety record of anhydrous ammonia transport via rail has been achieved over the years by working in a cooperative effort with the railroads and tank car manufacturing and leasing companies.

However, this cooperative spirit has been tested over the past year. The AAR announced in January of this year that it was initiating action through the AAR Tank Car Committee, which is dominated by railroad representatives, to redesign and replace all tank cars carrying anhydrous ammonia and chlorine within the next 5-7 years in an effort to meet a hypothetical risk reduction target. While TFI and its members believe that continuous improvement in safety is paramount, we strongly disagree with AAR's approach to rail safety.

We have been told that this action by the AAR is directly related to railroad accidents such as Minot, N.D. and Graniteville, S.C. In fact, the National Transportation Safety Board (NTSB) in its final report on the Minot accident determined that cracked welded rail was the root cause of the derailment, and although the NTSB has not yet issued a final report on the Graniteville accident, the preliminary determination by the NTSB shows employee track switching as the root cause of that accident. The bottom line is that 40 percent of all rail accidents are caused by human error, not tank design.

TFI has asked the Federal Railroad Administration (FRA) to assume its jurisdictional authority and evaluate the AAR's recommendations within the context of a congressionally mandated study which is now underway at the Volpe Institute. This study, requested in the highway bill passed by Congress last year, was requested by Sen. Byron Dorgan (D-N.D.) and calls for the development of a model to quantify the relevant dynamic forces acting on railroad tank cars under accident conditions and calls for the FRA to initiate a rulemaking to develop and implement appropriate design standards for pressurized tank cars. We believe the FRA is well equipped to carry out the mandate in a fair, open and unbiased manner through the federal rulemaking process.

TFI was pleased with the FRA action to hold a public meeting on May 31 and June 1 here in Washington, D. C. to hear testimony regarding the safe rail transportation of hazardous materials. What the FRA heard during this 2-day hearing was:

- (1) A holistic risk approach must be taken. Tank car design as well as railroad operation issues must be considered together to achieve a reduction in risk to human health and/or the environment as a result of an accident.
- (2) No tank car redesign or retrofit recommendations should be made until the results of the Volpe Center study are complete and reviewed.
- (3) The adverse effects of heavier rail cars on rail operations and delivery points must be considered.

- (4) Unrealistic deadlines have been set by the AAR for tank car redesign.
- (5) The process by which any tank car redesign is agreed upon must include subjecting the AAR proposal, or any other proposal or recommendation to the federal rulemaking process, which includes the opportunity for formal comment from affected industries.

In testimony presented at the hearing, AAR's President and Chief Executive Officer Ed Hamberger stated that the railroads' liability is just too great to continue carrying products such as anhydrous ammonia and they continue to transport our products only because of the railroads' common carrier obligations. Mr. Hamberger further testified that companies should consider switching to safer alternatives.

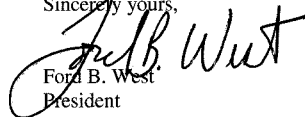
With regard to these points, our ammonia shipper companies advise TFI that the railroads will no longer write short- or long-term contracts for shipments of anhydrous ammonia. Only tariff rates are offered and the railroads have the option for quoting new tariff rates every twenty days. Our members have experienced so many rate increases that since this time last year rail transportation rates have increased 200-300 percent. There is no substitute for ammonia, therefore, Mr. Hamberger's statement that "safer alternatives" for anhydrous ammonia should be considered simply disregards this fact.

TFI strongly objects to the railroads' request for a liability cap or relief from their common carrier obligations. Congress should insist that the railroads show improvement in rail operations instead of passing the blame and economic burden on tank car companies and shippers.

We also would like to share with you testimony presented at the recent PHMSA and FRA hearing by two TFI member companies, which we believe will be of interest to you and members of the subcommittee.

Please do not hesitate to contact me at anytime we can be of assistance as you continue to look at the safe transportation of hazardous materials by rail.

Sincerely yours,

  
Ford B. West  
President



## The Fertilizer Institute

Nourish, Replenish, Grow

### STATEMENT ON BEHALF OF THE FERTILIZER INSTITUTE BY

JOE GIESLER  
TERRA INDUSTRIES, INC.  
SIOUX CITY, IA

Before the

**Pipeline and Hazardous Materials Safety Administration and the Federal Railroad  
Administration  
Public Meeting on Safe Transportation of Hazardous Materials to Address the Safe  
Transportation of Hazardous Materials in Railroad Tank Cars**

Thank you for the opportunity to appear here today at this very important hearing. I would like to thank the Pipeline and Hazardous Material Safety Administration (PHMSA) and the Federal Railroad Administration (FRA) for holding this public hearing.

- My company, Terra Industries Inc. produces and distributes anhydrous ammonia for agricultural and industrial use in Donaldsonville, La.; Port Neal, Iowa; Woodward, Okla.; Verdigris, Okla.; and Yazoo City, Miss., where we employ approximately 540 people with an annual payroll of approximately \$42 million. Terra also has a facility in Courtright, Ontario that services the eastern Cornbelt.
- I am also here today on behalf of The Fertilizer Institute (TFI). TFI is the national trade association representing the fertilizer industry, including Terra Industries. TFI's membership consists of producers, wholesalers, retailers, equipment manufacturers and importers. TFI members transport over 50,000 rail cars of anhydrous ammonia annually and own or lease approximately 6,000 tank cars.
- Anhydrous ammonia is the least costly and most effective source of nitrogen fertilizer for American farmers. It is the cheapest source of nitrogen on a per-pound basis, and corn is the largest consumer of direct applied anhydrous ammonia. One railcar of ammonia produces approximately 128,000 bushels of corn, which can be used to feed approximately 1,600 head of beef cattle or produce 345,600 gallons of ethanol. In this way, the corn crop nourished by anhydrous ammonia ends up not only in the food on our plates but—after processing into other products—also in the fuel tanks of our vehicles, in soft drinks and even in windshield wiper fluid.
- Ammonia is also the primary ingredient in other nitrogen fertilizers such as ammonium nitrate, urea and urea ammonium nitrate solution (UAN), and is also used to produce phosphate fertilizers such as diammonium phosphate (DAP) and monoammonium phosphate (MAP). At Terra Industries we upgrade approximately 70% of the ammonia we produce into UAN, urea, and ammonium nitrate. The remaining merchant ammonia is

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sold for agricultural or industrial applications. Only a few of Terra's locations are served by the river system and if Terra were unable to ship this merchant ammonia by rail, these locations would become uneconomical to operate and could be forced to shut down permanently.

- U.S. ammonia production has been threatened for the past several years because of the high cost of natural gas, the sole purchased feedstock for ammonia. U.S. ammonia production capacity totals 14.2 million material tons. However, many of these production facilities have either idled their plants or shut down production due to high natural gas prices. As a result, today only 14 producers remain in business in the U.S. To fill the need for ammonia for crop production, U.S. farmers have to rely on imported ammonia. In 2004/05, the U.S. imported 8.2 million tons of ammonia. In each of the last three years the United States has used an average of 20 million tons of ammonia. Of this total, approximately 14 million tons are used for agriculture and 6 million tons for industrial applications. In 2005, U.S. farmers consumed 3.1 million short tons of directly applied ammonia, approximately 25% of the total nitrogen needed for that year's crop production. The current level of crop production in the U.S. could not economically be sustained without the use of ammonia.
- Ammonia is a basic raw material in many industrial applications such as the manufacture of synthetic fibers, explosives for mining, and just recently as a reagent for scrubbing nitric oxide and sulfur from our coal fired generators. For most industrial uses of ammonia there is no ability to substitute products. Many of these facilities were built to receive inputs and ship exports by rail and are extremely limited in their ability to receive ammonia deliveries by truck.
- According to the Association of American Railroads (AAR), rail is the safest form of transportation for hazardous materials. TFI's members and the AAR have worked together to ensure this safety. Terra's pre-loading and post-loading inspections to ensure mechanical integrity of the railcars prior to shipment are known to be among the best in the industry.
- Many fertilizer facilities from the point of production to the agricultural retailer—and specifically the facilities that have survived over the last five years— were constructed at current locations based on the ability to receive their fertilizer by rail. It would take four truck cargo tanks to deliver the amount of ammonia that can be carried in one rail tank car. Switching ammonia from rail to truck transportation would raise two immediate serious concerns: 1) There are not enough qualified drivers or cargo tanks, and 2) Putting that many extra trucks on our highways would be unsafe. To replace just one hundred rail cars used during the agricultural application periods an additional three hundred ninety cargos would have to be transported on our highways. Industrial users would require this additional use of cargos on a monthly basis, as their business is not seasonal.
- Absent feasible options for the rail transportation of ammonia, farmers and a wide variety of U.S. consumers would feel significant economic impacts. It is not a viable economic option to build more cargos to transport ammonia for agricultural or industrial applications. The increase in energy costs for fuel, fertilizer, and now with increasing transportation costs will make our agriculture industry uncompetitive with other countries. Many industrial users will simply have to close as they are increasingly having difficulty competing in the global market. To increase the costs to transport or receive a

major raw material will make their operations unviable, forcing well-paid employees to be terminated across the country.

- We have been working with the AAR to further the safe transportation of anhydrous ammonia. However, we disagree with the stance the railroads have taken by trying to impose a new tank car design without regard for its impact on overall safety. The AAR's unrealistic deadline for a decision by September and stated expectation that these new cars be on line in the next 5-7 years is unrealistic and does not consider other factors that have contributed to rail accidents.
- The AAR's "heavier is better" approach to tank car safety fails to consider the potential adverse effects on safety. The most evident adverse effect is the likely significant increase in truck shipments due to track restrictions that prevent many facilities from receiving the heavier cars and due to the higher cost of rail transportation that heavier cars will impose upon ammonia shippers. Currently, the estimated costs to build these cars are approximately 160% higher than new ammonia cars and they would hold approximately 87% as much product as compared to the current "best in class" ammonia car. These higher costs, plus reduced quantities per shipment will increase the cost of shipping, before rail freight and fuel surcharges, by approximately 75%. On the tier one railroads, rail freight alone has risen from 175% to over 300% since December 2004. These heavier cars would add approximately 15% per ton to the tariff rates. Not included in these calculations is the infrastructure necessary to handle these heavier cars. Most receivers and shippers of ammonia today, and most of the short line railroads do not have the appropriate track servicing their facilities to handle this type of railcar. I currently do not have an estimate on the industry-wide cost or timeline it would take to get the infrastructure in place.
- AAR's approach also is inconsistent with recent National Transportation Safety Board (NTSB) recommendations to improve tank car safety. After a derailment in Minot, N.D. in 2002, the NTSB's accident report declared that the construction of tank cars with sufficient impact resistance to eliminate or reduce leaks "will require evaluation of the dynamic forces and an integrated analysis of the response of the tank structure, as well as the response of the tank material, to these predicted dynamic loads." The AAR's approach considers none of these factors. But there is a study, mandated by Congress, currently being conducted by The Volpe Institute that does consider these factors. However, the AAR has insisted on adopting its proposal before that study will be completed.
- We feel that PHMSA and FRA's action today is absolutely necessary. The Volpe Study will develop a model to quantify the relevant dynamic forces acting on railroad tank cars under accident conditions. Once completed, the FRA is to initiate rulemaking to develop and implement appropriate design standards for these cars. I strongly feel that any recommendations should not be based on a single predetermined set of design criteria, but should consider a variety of approaches with accompanying safety benefits. I feel this action appropriately belongs within PHMSA and FRA.

**MORSCHCK**

On behalf of the 350 people of our business, and the 2500 farmers we serve across the Inland Pacific Northwest, my appreciation goes out to the Pipeline and Hazardous Material Safety Administration (PHMSA) and the Federal Railroad Administration (FRA) for holding this public hearing. Agriculture is the largest industry in the Pacific Northwest where family farms grow extraordinary crops—as much as 130 bushels per acre of wheat. The other Washington, (State of Washington) might be most commonly associated with airplanes and apples in the public mind but it is also the #2 state in the union in wheat production. Whitman County, Washington has led all counties in the United States in wheat production for nearly a century and several neighboring counties are in the top ten nationwide.

The survival of family farms in the PNW is closely tied to the availability of the lowest cost nitrogen source—anhydrous ammonia—which arrives in our region on primary and secondary rail lines. In our business, The McGregor Company, we have handled NH<sub>3</sub> for more than fifty years and we have had an extraordinary safety record. Over the years we have handled over a million tons of NH<sub>3</sub>, the majority brought to us over the rail system. Access to this concentrated, low cost nitrogen product has enabled thousands of farmers to produce profitable crops and make a living for their families.

Take away access to a product that contains 82% nitrogen, replace it with 32 or 46% nitrogen alternative sources, or make it impossible to receive NH<sub>3</sub> on rural rail lines and what will you achieve? You'll drive a nail into the coffin for many dedicated farm families already badly hurt by an energy crisis- a crisis Senator Roberts of Kansas has described as a "Category Five Hurricane of High Fuel and Fertilizer Prices." Farm families have seen—for the first time since the Great Depression—a bushel of grain worth less than a gallon of fuel.

We've lost three to four farm families this past winter in each of the 43 rural towns we serve. Slowing the exodus and providing some hope has been Job #1, and a passion for us.

In this economically fragile environment across our heartland, the timing for moves that would make it far more costly to receive ammonia by rail, or would result in rail cars so heavy they could not be transported on rural rail lines could hardly be worse. Anhydrous ammonia costs farmers, on the average, forty to fifty percent less per pound of nitrogen than less concentrated alternatives.

While we in agriculture cannot control railroad maintenance or the consequences of two freight trains running into each other, we must urge you to be aware that allowing railroads to relieve themselves of their responsibility to transport certain products like anhydrous ammonia by mandating onerous tank car design requirements or egregious tariffs, without consideration for their responsibility to improve their infrastructure and operational safety record during a time of extraordinary hardship for farm families would be a painful and inappropriate action, indeed.

I'm not sure what homeland security means but producing a bounty home-grown food that meets exacting regulatory standards with the use of the most efficient nitrogen products available, thereby allowing us to very efficiently feed fellow Americans and people around the globe, should surely rank as something worthwhile in the equation.

The Association of American Railroads reports that rail transportation of hazardous materials is the safest form of transportation for these products. Yet AAR's "heavier is better" approach to tank car design can have unintended negative consequences for safety. We've been using rural short lines to bring NH<sub>3</sub> as close to the field as possible and then transporting short distances to the field by truck. Long distance trucking from main line terminals would be more expensive for growers—an expense they can ill afford—and it would mean four truck cargo loads on public

roadways for each rail car that is displaced. Ammonia is not only a product applied directly to our soil for the production of our amber waves of grain, it is a critical component in the production of other major fertilizer products that farmers must use to produce profitable crops in our area and across the nation. In our company, for example, our suppliers ship us ammonia by rail on a short line railroad to Mockonema, Washington—population, 10—where we convert it into other finished products such as aqua ammonia and liquid phosphate, which is applied with  $\text{NH}_3$  at prescribed rates based on preplant soil nutrient tests. We've been doing that safely for more than forty years. If we had to replace the 165 rail cars of ammonia, delivered on our short line railroads with more than 660 loads of ammonia delivered by truck from a city a hundred miles away, safety would be lessened, the fragile farm economy would pass its breaking point, and no one would benefit.

We are concerned, with stakes so high for the farm economy and for the agricultural businesses and communities dependent upon farmers, we want to see that a reasoned, deliberative process be applied to the determination of how best to safely and securely transport anhydrous ammonia by rail in this country, a process that acknowledges a half century of demonstrated safety and stewardship by the agricultural industry. The AAR's Tank Car Committee is being asked to produce recommendations by this coming September. Moreover, the tank car committee's implementation of new tank car design criteria, that they would like to see implemented in five to seven years from now, is unrealistic goal by nearly everyone's standards. With the number of tank cars in ammonia service today, there are not enough tank car repair shops or car manufacturers to replace or retrofit the ammonia fleet within that time frame. A more reasonable time frame must be established before final decisions are made on such a vital issue to American Agriculture.

When the National Transportation Safety Board reviewed the Minot derailment, its members concluded that construction of tank cars with sufficient impact resistance to eliminate or reduce leaks “will require evaluation of the dynamic forces and an integrated analysis of the response of the tank structure, as well as the response of the tank material, to these predicted dynamic loads.” The AAR’s approach considers none of these factors. Their urgency to create new tank car design requirements leaves me suspect of their true intentions, is the goal really improving the safe transportation of anhydrous ammonia or an effort to “phase out of the business of transporting ammonia altogether”? I predict that the answer to this question will become more apparent as the process continues.

As requested by Congress, the FRA has asked the Volpe Center to conduct a study on the dynamic forces in an accident scenario. It is our understanding that the model should be complete in December 2006. We request that no tank car redesign or retrofit recommendations should be approved or implemented until the Volpe study is completed and the results reviewed so that recommendations focus on quantified risks. We believe that the insistence of AAR to move ahead with new tank car design criteria, before the completion of the Volpe study, to be inconsistent with a goal of finding workable solutions to safely and securely transporting anhydrous ammonia.

Once the Volpe study is completed and a full review of its recommendations takes place with all stakeholders participating, we support having the FRA taking the lead in initiating a rule making process to determine a holistic risk based approach, to the safe transportation of anhydrous ammonia. Tank car design as well as railroad operation and maintenance issues must be considered together to achieve a reduction in risk to human health and/or the environment as a result of an accident. We believe this is a logical and prudent approach and should not be short

circuited by a single set of predetermined tank car design criteria. Risk reduction strategies should also include a cost-benefit analysis component. Again, by having several strategies and performance standards to select from, shippers and carriers can select those measures that best meet specific scenarios. Tank car manufacturers can design a “safer, stronger” tank car but there first must be a determination by the FRA that an “improved” tank car design is both safer and is economically feasible. This action appropriately belongs within the Pipeline and Hazardous Material Safety Administration (PHMSA) and the Federal Railroad Administration (FRA), in our opinion.

Ours is not a large business in these days of national and international corporations. But our \$15 million annual payroll, and 350 employees, is an important part of the 43 farm towns we serve. Following the advice of pioneer settlers—measuring twice and cutting once—would seem appropriate when our firm, and thousands like it across our heartland, have shown that we can handle ammonia safely and responsibly year after year. More important yet are the farmers we serve—the last bastion of family business with 97% of acres farmed by individual families. Their ability to produce foodstuffs more efficiently than anyone on earth—requiring less than 10% of disposable income to feed each American--- while surviving the catastrophic consequences of skyrocketing energy costs and sluggish commodity markets is remarkable. It’s not pure happenstance that families-- with a cast iron hope for better days ahead and a pride in doing important work and a love for the land—dominate the agricultural landscape. Returns are too erratic, often less than could be received for entry level work in a city job, and risks are too great to interest absentee shareholders.

Consider carefully the consequences for these remarkable people, families who are struggling mightily through the worst economic crisis of our lifetimes. As former President Dwight

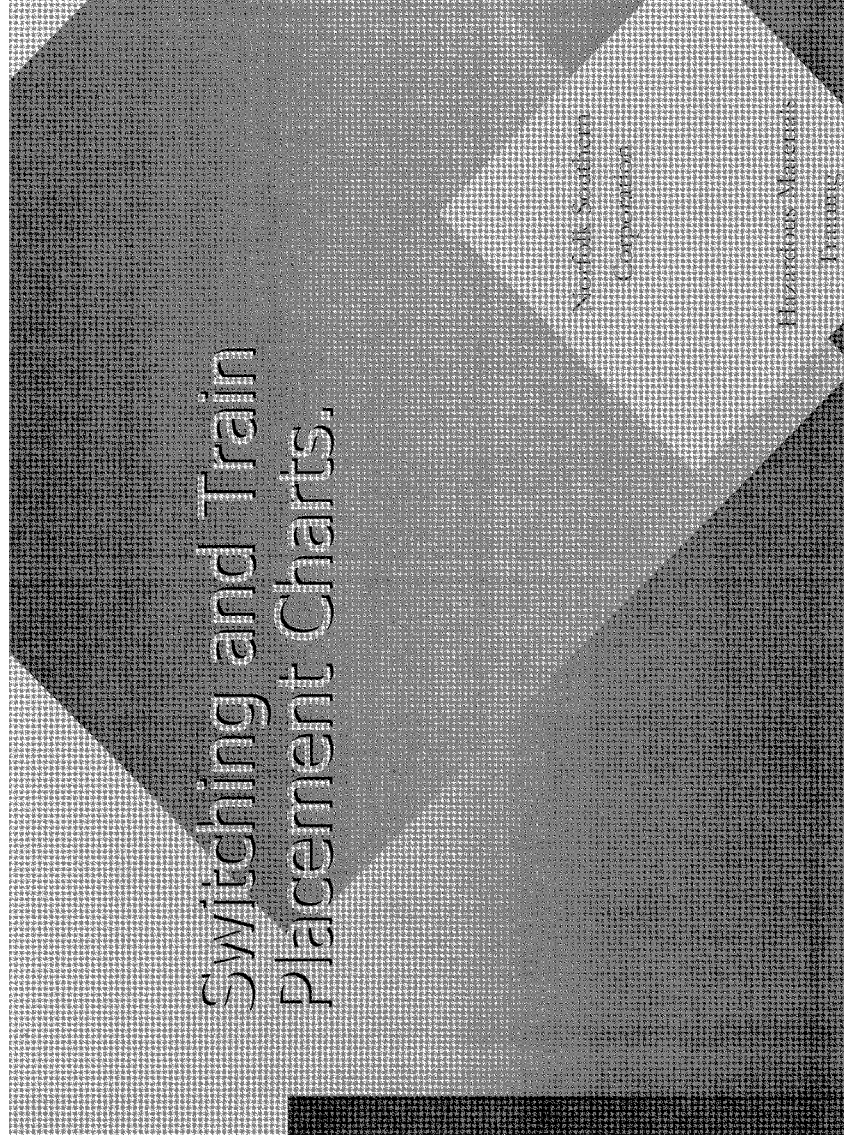
Eisenhower once put it, “Farming looks mighty simple when your plow is a pencil and you are a thousand miles from the...field.” We are all for safety—and we have demonstrated our excellent record at our branches, on the road to the field, and on the farm. Please don’t handicap our efforts with draconian “solutions” rushed into place without consideration of the consequences for the remarkable people who are American agriculture.

Fred Morscheck

The McGregor Co.

Colfax, WA





## Introduction

Switching and Train Placement Charts are found in the HM-1 United States Code Hazardous Materials Instructions for Rail, pgs. 24-25 and 28-29, located in NS Operating Manuals.

## What are the Charts used for?

- Lists the restrictions on Placarded cars.
- Delivers concise technical information in an easy to read chart.
- Ensures proper handling of Hazardous Materials cars.

## Position in Train Chart

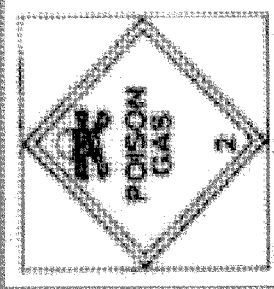
- Found on page 28 and 29 of your HM-1 Hazmat section of the Operating Manual.
- List Five horizontal groups, and Seven vertical restrictions.
- Restrictions are indicated by the placement of an **X** in the vertical columns.



## How to read the Chart

- Determine the placard on the car.
- Determine the type of car.
- Determine if car is Loaded or Empty.
- Follow vertically down the chart, taking note of any restrictions, **X**.
- Follow horizontally across each row to determine what restrictions are applicable.

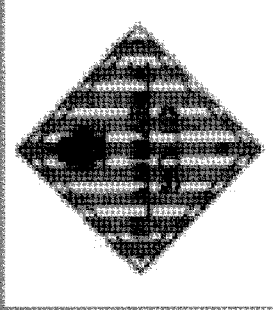
- What restrictions are placed on an Empty tank car displaying this placard?



Restriction

Two

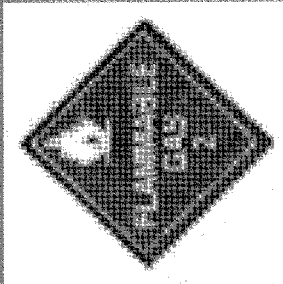
What restrictions apply to a  
Loaded Flat car with this  
placard?



Restriction

Seven

Could a loaded tank car with either of these placards be placed next to an engine?



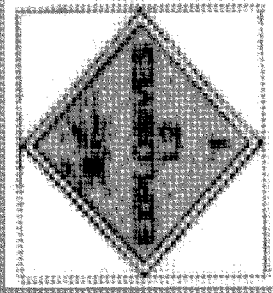
NO!



## Switching Chart

- Found on pages 24 and 25 of HM-1 Hazmat section of Operating Manual.
- Read the same way as the Train placement chart.
- Has Four horizontal groups but only Four vertical restrictions indicated by an **X** in the applicable column.

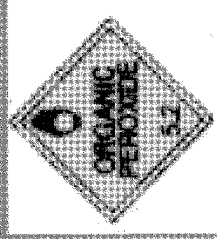
What switching  
restrictions apply  
to a car with this  
placard?



Restrictions

One and Two

What switching restrictions  
are applicable to  
a Loaded tank car  
with this placard?

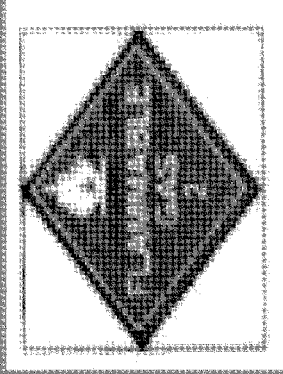


Restrictions

Three and Four

Can a DOT-113 tank car with  
this placard be cut off in motion?

NO!



# Hazardous Materials Training

Norfolk Southern Training Center  
McDonough, Georgia



## Introduction

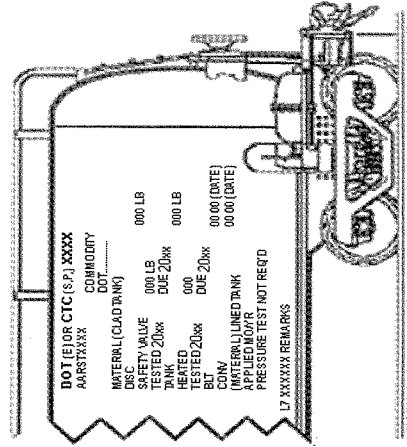
This program will introduce you to the use of the following items:

- Current Hazardous Materials Instructions
- ERG Guide Book
- Hazardous Materials Handout

# Recognition and Identification

- Every railcar and container has a unique initial and number painted on each of the four sides.

- HM-1 Page 5  
Sec. 2 6(a)



## Recognition and Identification

- The primary shipping document used by the railroad is the **Train Consist**. It contains detailed Hazardous Materials information on individual cars. The consist also lists the position of each car in the train.

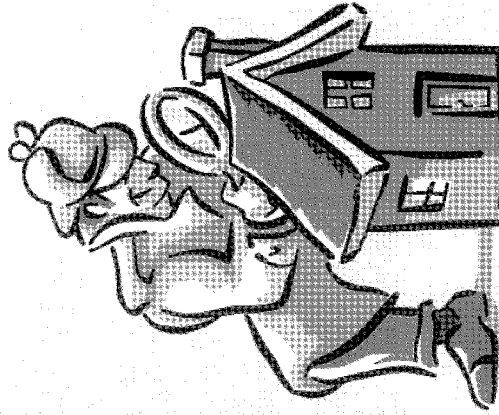


## Shipping Documents

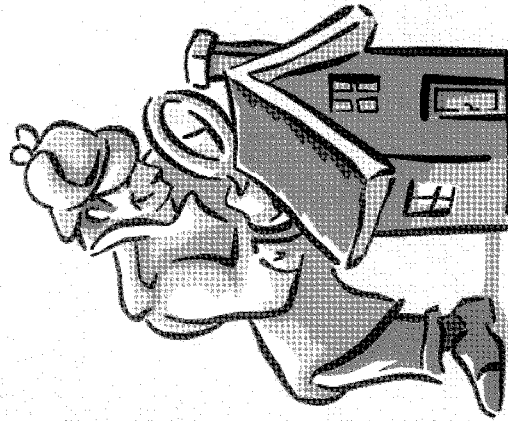
- Haz-Mat endorsement
- STCC
- Quantity
- Proper Shipping Name
- Hazard Class
- UN/NA number
- Emergency Phone Number

- HM-1 Page 5

Sec. 6 Figure 1



## Other Shipping Documents



- Waybill
  - Industry Work Order
  - Bill of Lading
  - Connecting Carrier's Documents
  - Radio Waybill
  - Hand-printed Document
  - Hazardous Waste Manifest
  - HM-1 Page 4
- Sec. 2 (2)

## Other Clues...

- Stencils

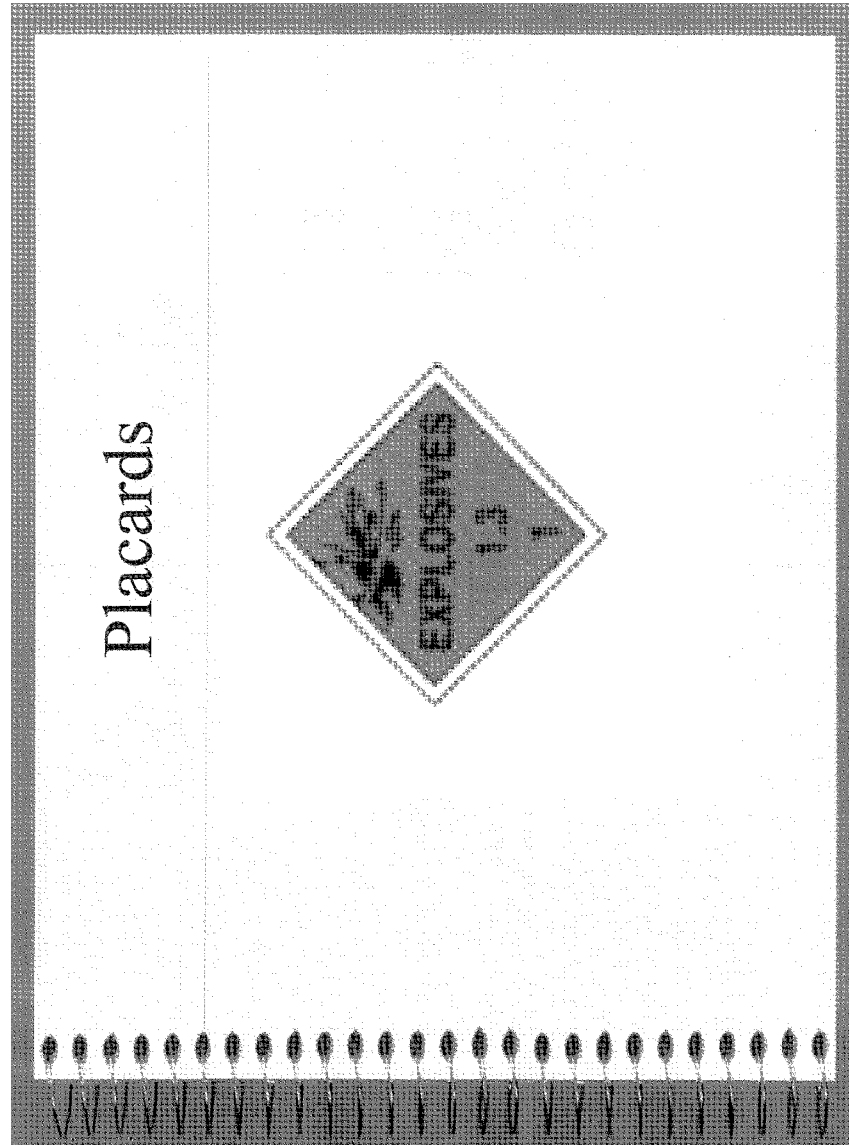
Some commodities, 4" letters

- Placards

Give more information

- Markings

Give more information



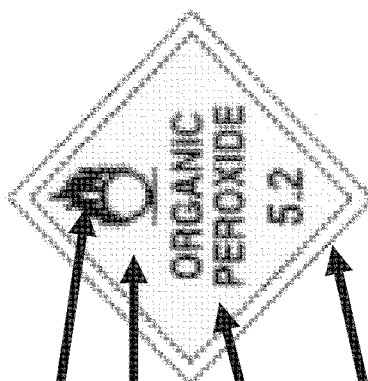
## Have 4 things in common

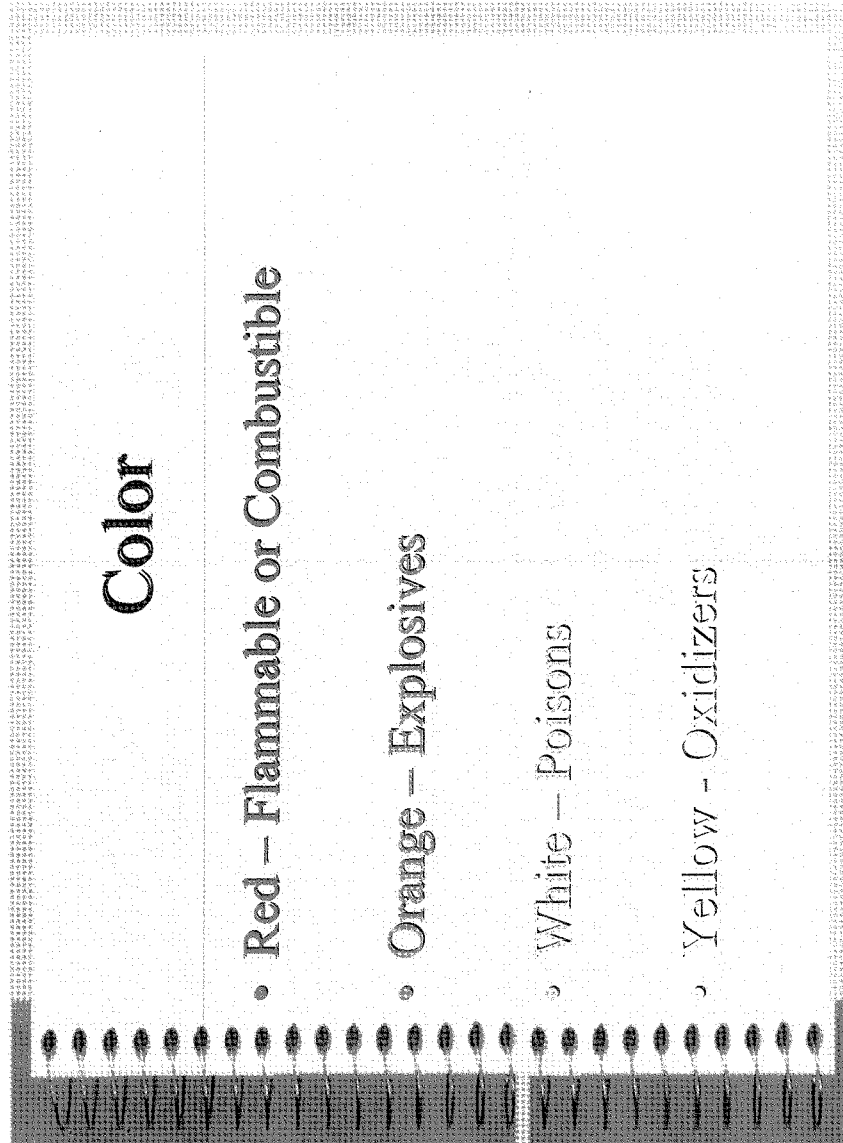
- Symbol

- Color

- Hazard  
Number/Name

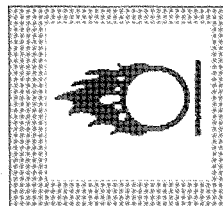
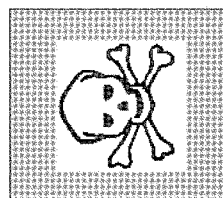
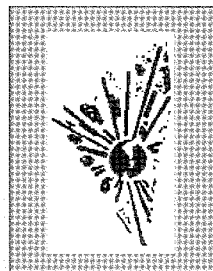
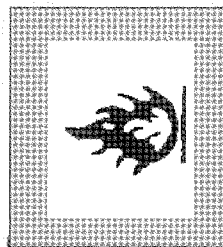
- Hazard Class





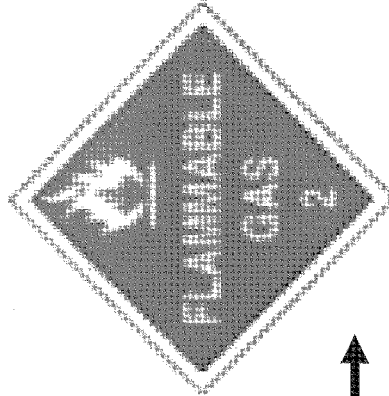
## Symbols

- Flammable – Flame symbol
- Explosive – Bursting bomb
- Poison – Skull and Cross Bones
- Oxidizer – Accelerated burning circle



## Hazard Class Number

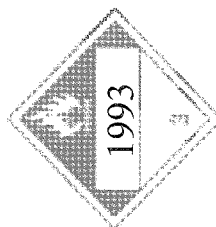
- Hazard Class Number will always be shown at the bottom of the placard.





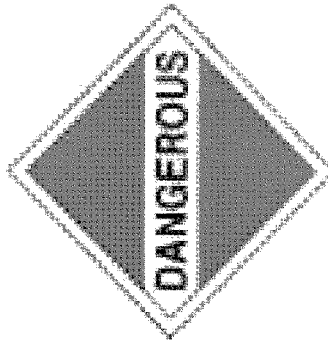
## Hazard Class Name

- If present, the Class Name will be in the center of the placard, if not the name will be represented by a four-digit commodity identification number.
- If the name is on the placard, the number must be stenciled on the car.



## Dangerous Placard

- The Dangerous placard is used for mixed loads of Hazardous Material shipments. These are commonly found on intermodal containers.



## Primary & Secondary Placards

- Some Hazmat Shipments will display more than one placard
- The Primary Placard is the first hazard class following the PSN on the shipping paper document.

## Packing Groups

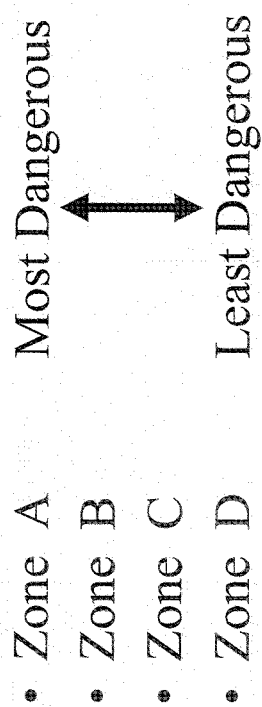
Packing groups determine relative hazards within a group. Dealing primarily with solids and liquids.

- Packing Group I (PGI) Great Danger
- Packing Group II (PGII) Moderate Danger
- Packing Group III (PGIII) Minor Danger

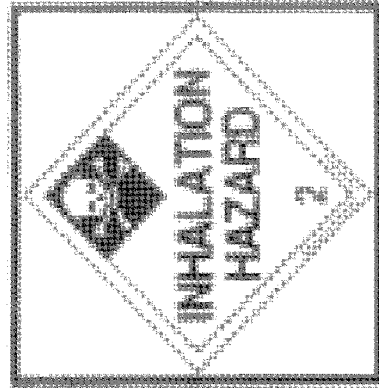
HM-1 Page 6 (f)

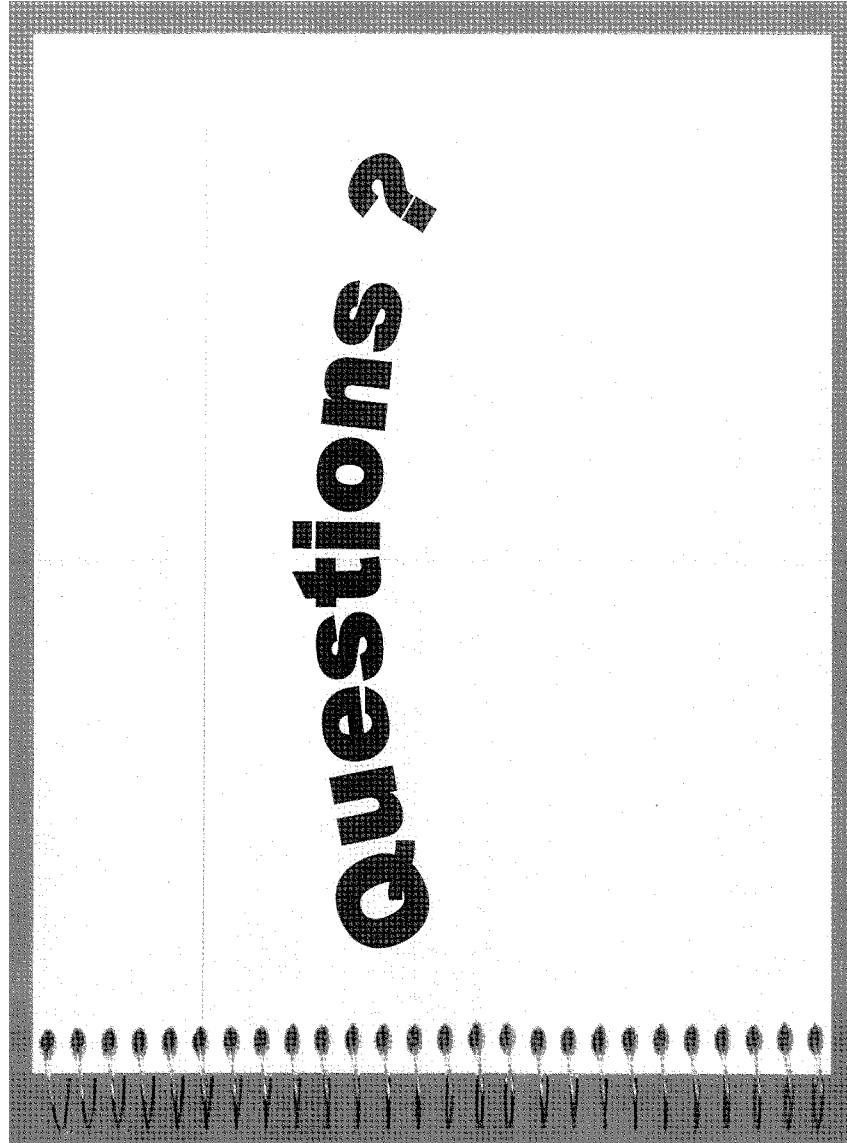
## Hazard Zones

If a hazardous commodity is poisonous by inhalation it must be categorized by one of four hazard zones.



- Chemicals which are poisonous by inhalation (PIH) are listed as both Packing Group I and Hazard Zone A





## Safety and Emergency Response

- Division Emergency Response Plan
- Local Emergency Response Plan
- Spill Prevention Control & Countermeasure plans



# When an Emergency Occurs

## SAFETY IS OF FIRST IMPORTANCE

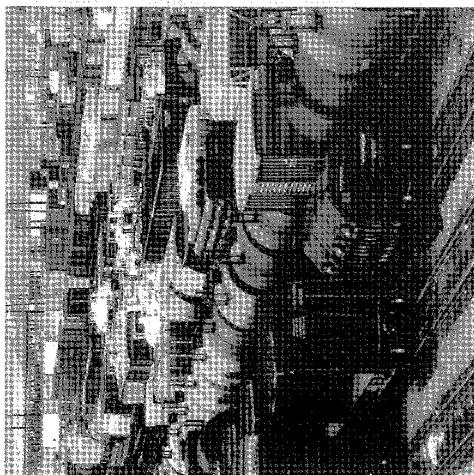
- Immediately report the incident to the Train Dispatcher or Yardmaster
- Check your crew
- Review your consist
- Do not go near derailment, unless you know it is safe.



# When an Emergency Occurs

## SAFETY IS OF FIRST IMPORTANCE

- Make an emergency call, as radio rules require.
- Look for a fire or vapor cloud.
- Rescue the injured, without endangering yourself or others.
- Warn and keep everyone at a safe distance.



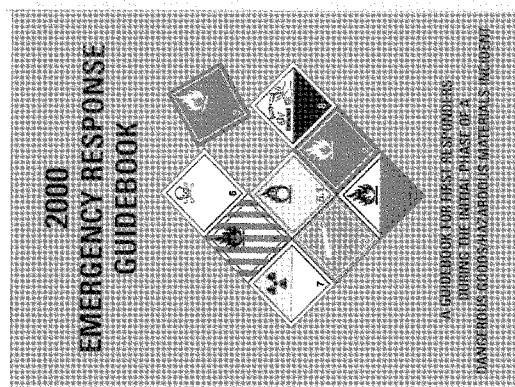
## Follow these simple rules...

- Do not take undue risks
- Do not walk into or touch spilled materials
- Stay out of ditches and low areas
- Avoid inhalation of fumes, smoke and vapors
- If you detect fire, vapor, smoke, leak or gas cloud, **DO NOT GO NEAR THE CARS!**

## Supply as much information as possible to the Dispatcher or Yardmaster.

- Your name and title
- Train number
- If fire or medical assistance is needed
- Cars involved (location and condition)
- If any Haz-Mats are involved and how much
- Any environmental problems (neighborhoods, schools, streams, rivers, etc...)
- Where crew will meet emergency responders

# Emergency Response Guidebook



## Emergency Response Guidebook

Current Norfolk Southern Hazardous Materials instructions require the following employees to have copies available to them while working:

- Yardmasters
- Dispatchers
- Train and Engine employees (both yard and road crews)

## Emergency Response Guidebook

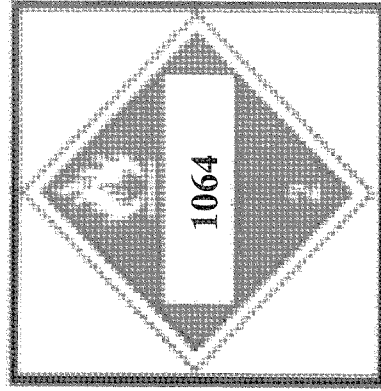
Divided into four sections:

- Yellow pages – Indexed by ID number
- Blue pages – Indexed alphabetically
- Orange pages – Lists information on each chemical, Guides.
- Green pages – Tables of isolation and protective action distances

## Yellow Bordered Section

Using the yellow bordered section:

- Locate the number
- Find the guide number
- If it is highlighted, refer to the green section at the rear of the guide
- What is this?





- Numbers are sequential.



- Since the commodity is highlighted, there is more information in the evacuation table.

ID	English Name of Material	No. No.	ID	English Name of Material	No. No.
104	104	104	104	104	104
105	105	105	105	105	105
106	106	106	106	106	106
107	107	107	107	107	107
108	108	108	108	108	108
109	109	109	109	109	109
110	110	110	110	110	110
111	111	111	111	111	111
112	112	112	112	112	112
113	113	113	113	113	113
114	114	114	114	114	114
115	115	115	115	115	115
116	116	116	116	116	116
117	117	117	117	117	117
118	118	118	118	118	118
119	119	119	119	119	119
120	120	120	120	120	120
121	121	121	121	121	121
122	122	122	122	122	122
123	123	123	123	123	123
124	124	124	124	124	124
125	125	125	125	125	125
126	126	126	126	126	126
127	127	127	127	127	127
128	128	128	128	128	128
129	129	129	129	129	129
130	130	130	130	130	130
131	131	131	131	131	131
132	132	132	132	132	132
133	133	133	133	133	133
134	134	134	134	134	134
135	135	135	135	135	135
136	136	136	136	136	136
137	137	137	137	137	137
138	138	138	138	138	138
139	139	139	139	139	139
140	140	140	140	140	140
141	141	141	141	141	141
142	142	142	142	142	142
143	143	143	143	143	143
144	144	144	144	144	144
145	145	145	145	145	145
146	146	146	146	146	146
147	147	147	147	147	147
148	148	148	148	148	148
149	149	149	149	149	149
150	150	150	150	150	150
151	151	151	151	151	151
152	152	152	152	152	152
153	153	153	153	153	153
154	154	154	154	154	154
155	155	155	155	155	155
156	156	156	156	156	156
157	157	157	157	157	157
158	158	158	158	158	158
159	159	159	159	159	159
160	160	160	160	160	160
161	161	161	161	161	161
162	162	162	162	162	162
163	163	163	163	163	163
164	164	164	164	164	164
165	165	165	165	165	165
166	166	166	166	166	166
167	167	167	167	167	167
168	168	168	168	168	168
169	169	169	169	169	169
170	170	170	170	170	170
171	171	171	171	171	171
172	172	172	172	172	172
173	173	173	173	173	173
174	174	174	174	174	174
175	175	175	175	175	175
176	176	176	176	176	176
177	177	177	177	177	177
178	178	178	178	178	1

# Evacuation Table

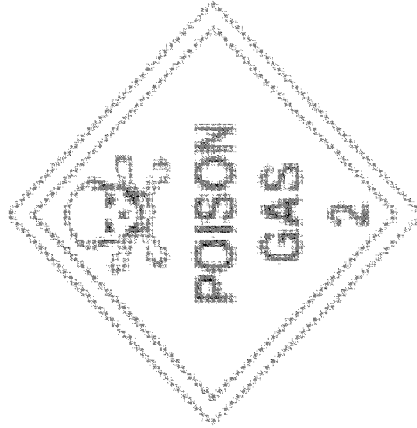
- The commodities are listed by their ID numbers.

[illegible]

## Blue Bordered Section

Using the blue bordered  
section:

- Locate the name
- Find the guide  
number

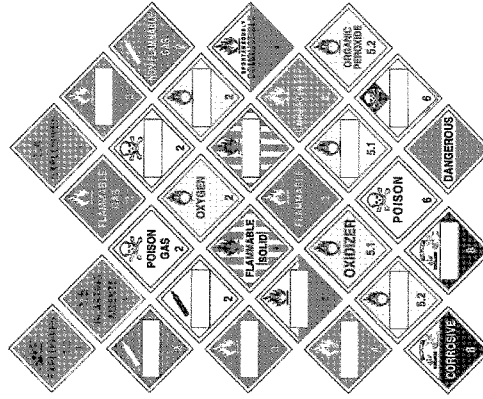


## Orange Bordered Section

This section is the most important section of the guidebook. The left hand page provides safety information while the right hand page provides emergency response guidance. Divided into three sections

- Potential hazards
- Public safety
- Emergency response

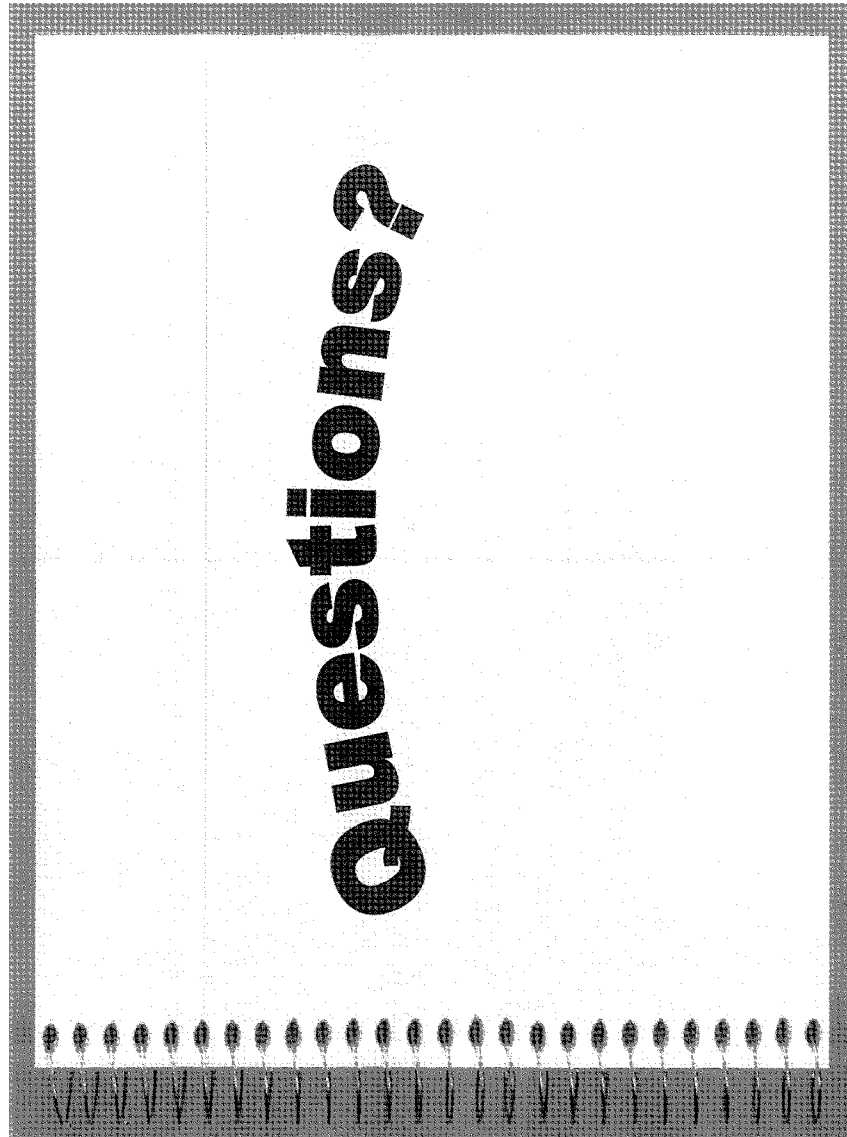
If you cannot determine  
the number or the  
name on the placard,  
refer to pages 16 and  
17 of your ERG.



## In the event of an actual incident

Identify yourself to the emergency responders and:

- Share shipping papers
- Share emergency response information



## Function Specific

Before coupling to a placarded car look for these things from the ground:

- Carbody is not leaning or listing
- Car is not sagging
- Car is not improperly positioned on the trucks
- No objects extending from the side
- No broken or missing safety appliances
- Doors are securely attached
- No visible or detectable leaks



## Car inspection continued

- All ground loading/unloading lines disconnected
- Platforms are in the clear
- Handbrake applied
- Manway coverbolts, valve housing covers, bottom outlet plugs or caps are in place
- Proper placards are located on all four sides

If any problems are detected, do not move the car! Contact a representative of the industry, if they can not fix the problem contact a member of the Mechanical Department.

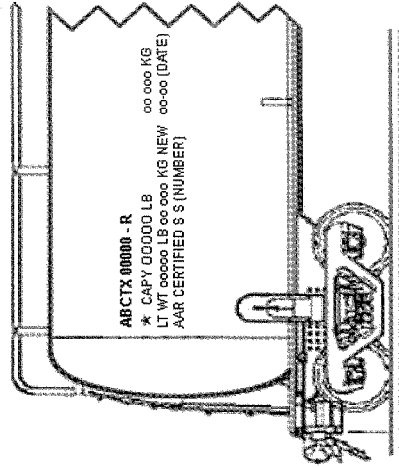
# Tank Cars

A car is within test until the last day of the month or year shown. These markings will appear on the right hand side of the car. If the car is out of date, contact your supervisor.

DOT (E) OR CTC (S.P.) AA887XXXX		COMM DOT
INTERNAL (C) OR TRNK 000 LB		000 LB
DISC TESTED 20xx	000 LB	000 LB
TANK HEATED 20xx	000	000
TESTED 20xx	000	000
BLT	000	000
CONV	000	000
(MATERIAL) LINED TRNK	00.00 (DATE)	00.00 (DATE)
APPLIED MOYR	00.00 (DATE)	00.00 (DATE)
PRESSURE TEST NOT REQ'D		
17 XXXXX REMARKS		

## Top and Bottom Shelf Couplers

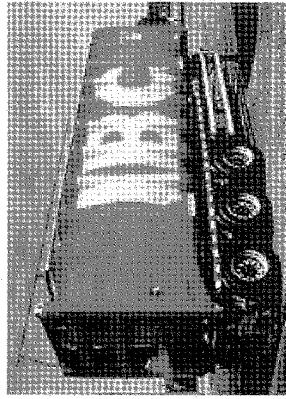
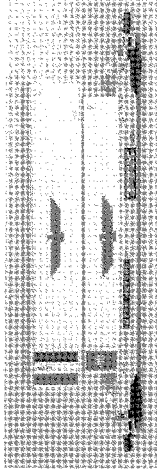
Before accepting a tank car at an industry or interchange be sure it has top and bottom shelf couplers.



## Intermodal shipments

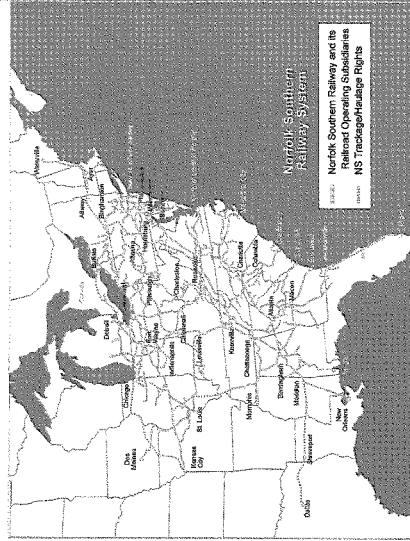
Be sure intermodal cars or tanks are not pulled from an industry unless:

- DOT PSN are clearly marked on two opposing sides of tank cars
- Placards are clearly visible on all four sides of both containers and tanks



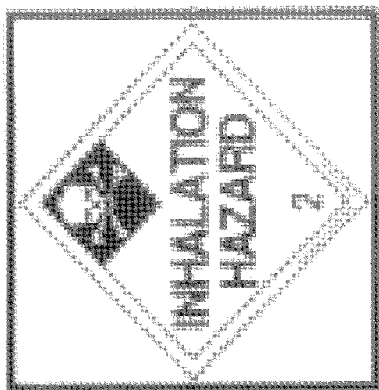
## Key Train Routes

Certain trains carrying specified numbers of loaded rail cars, trailers or containers of hazardous materials will be operated as Key Trains.



## Key Train Classification

- Any train with five (5) or more tank car or intermodal portable tank loads of a “Poison (Toxic) Inhalation Hazard” (this includes Hazard Zones A, B, C, or D).



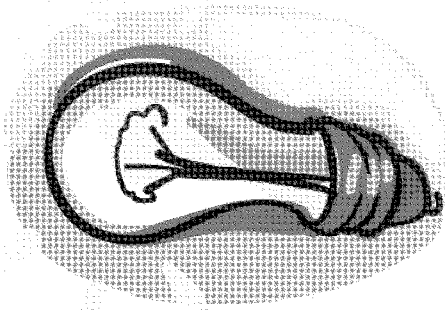
## Key Train Classification

Also, any train with any combination of twenty (20) or more car loads or intermodal portable tank loads of hazardous materials;

Or

## Key Train Classification

- The newest criteria for being a Key Train is having One (1) or more car loads of Spent Nuclear Fuel (SNF)  
Or
- High-Level Radioactive Waste (HLRW).

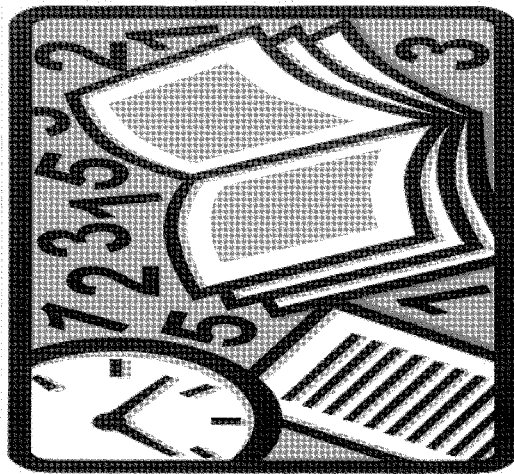




## Key Train paperwork

Key Train commodities are listed on computer generated paperwork.

If you leave your original station and your Key Train status changes enroute, notify the dispatcher immediately



## Key Train Restrictions

- Maximum speed is 50 mph
- Hold Main track when practical
- If hot wheel detector indicates an overheated journal on any car, but inspection fails to confirm a defect, train speed will not exceed 30mph until you pass the next detector. If the next detector confirms the defect, the car must be set out.

## Hazardous Materials Paperwork

You are responsible for having all the paperwork necessary to move Hazardous Material cars in your train. This paperwork is received from CYO and must be reviewed prior to moving any car.

Compare the next two slides.

- Which one is an example of the Hazardous Consist? (remember the necessary information)
- Which one is an example of a Car Handling Report?

086	AEX	000139	E	BRUNSWIC	GA	NS	34	ANDERSON	0000000	C114
087	UNPX	127494	L	BRUNSWIC	GA	NS	131	GEORGIA	4918723	C712
<p>*****        * HAZARDOUS *        * MATERIALS *        *****        IN CASE OF EMERGENCY CALL        NO PH #</p> <p>1 TKN</p> <p>SODIUM CHLORATE        5.1//UN1495//PG II        EMERGENCY CONTACT:        CHEMTRACK        8004249300        HAZMAT STCC=4918723        HAZARDOUS MATERIAL        FROM/SHIPPER:        STERLING        VALDOSTA        GA</p> <p>TO/CONSIGNEE:        GEORGIA        BRUNSWICK        DIVISION 5.1 (OXIDIZER) DANGEROUS</p>										
088	NS	200076	L	BRUNSWIC	GA	NS	130	GEORGIA	2411515	E707
PLTF										
089	NS	400034	E	BRUNSWIC	GA	NS	31	GEORGIA	0000000	A302
090	NAHX	074730	L	BRUNSWIC	GA	NS	119	B-P	6YPS	3275245
091	HPJX	040539	L	STERLING	GA	NS	135	SEABOARD	1421990	M351
"EXCESSIVE WEIGHT - IS OKAY FOR CAR AND ROUTE"										

086 AEX 005159	034 BRUNSP	ANDERSON BRUNSWIC 6A	
087 UNPX 127494	131 BRUNSP	DANG GEORGIA BRUNSWIC 6A	
	DIVISION 5.1 (OXIDIZER)	>DANGEROUS<	
088 NS 200076	130 BRUNSP	GEORGIA BRUNSWIC 6A	
	PLTF		
089 NS 400034	031 BRUNSP	GEORGIA BRUNSWIC 6A	
090 NAMX 074720	119 BRUNSP	G-P GYPS BRUNSWIC 6A	
091 HPJX 040539	135 STLNGP	SEABOARD STERLING 6A	
	"EXCESSIVE WEIGHT -	IS OKAY FOR CAR AND ROUTE"	

You are correct. The first slide is an example of a Hazardous Materials consist because it lists everything required on a Hazardous Materials document. The second slide is from a Car Handling Report report and lists the fact it is a dangerous car, but that is the only information given.

## Paperwork

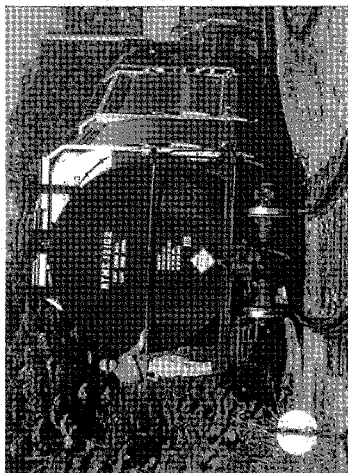
If you discover a placarded car in your pick up which you do not have the proper paperwork on you cannot move that car. You must have the proper paperwork before moving the car.





## Setting off and Picking Up Cars

Be sure to update the standing order of your Hazardous Materials cars in your train as you set off and pick up cars.

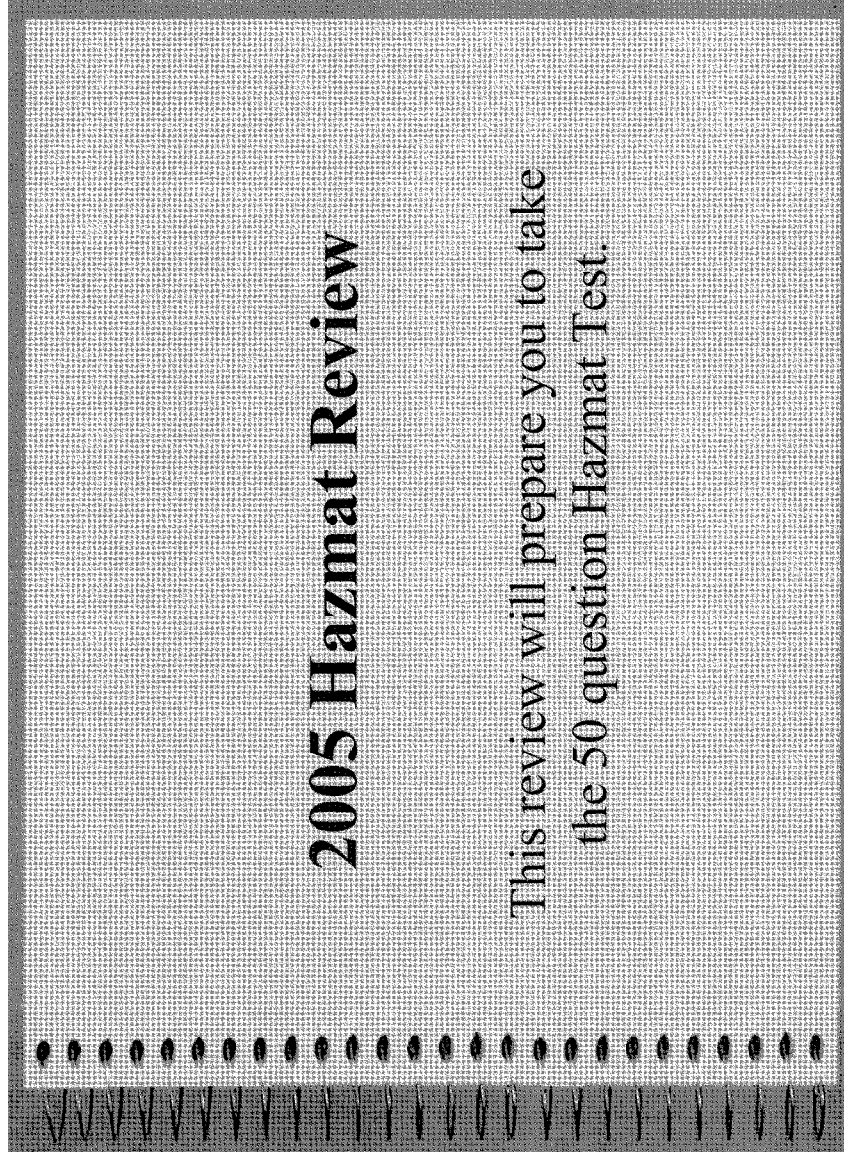


## Car Movement Restriction Message (CMRM)

- EXPL – A load of Division 1.1 or 1.2 explosives
- FGAS – DOT 113 flammable gas cars
- PGAS – Loaded car of Hazard Zone A or B commodities
- DANG – Represents the majority of Hazardous Material shipments. These cars should be handled in accordance with current instructions
- HAZM – Limited restrictions

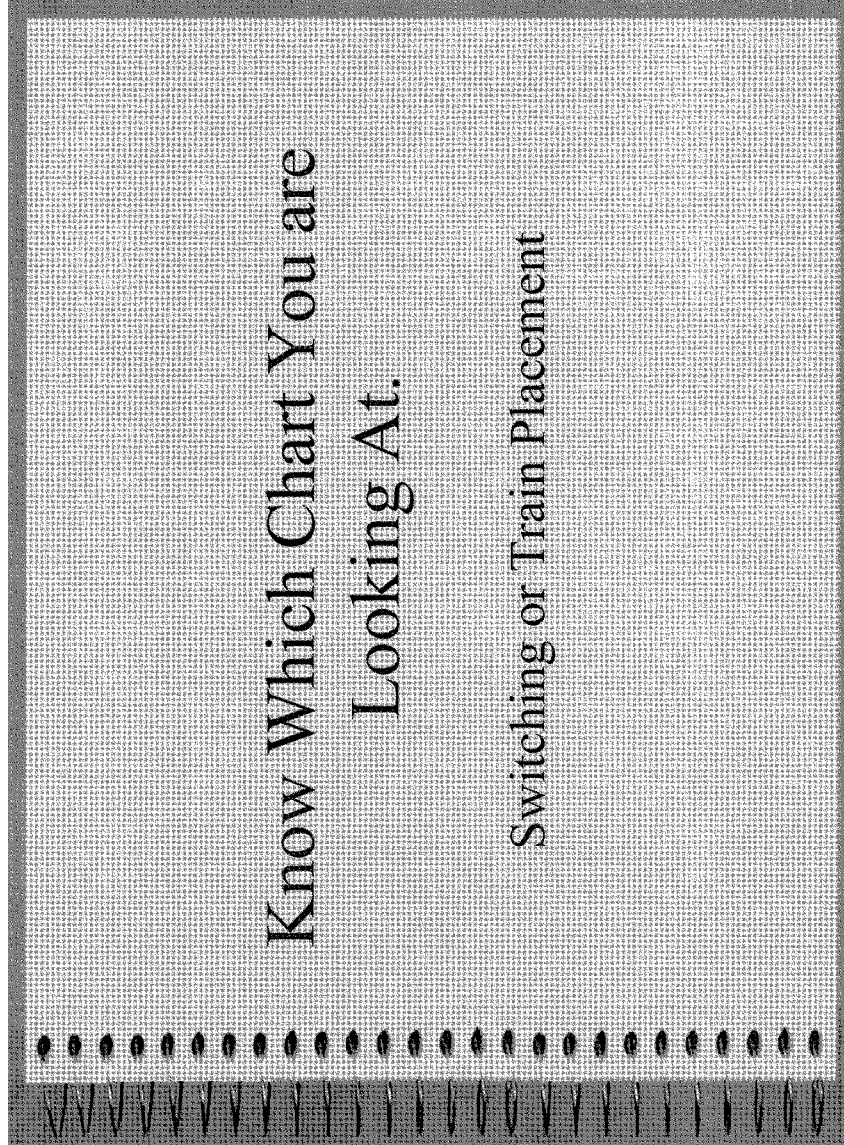
## **2005 Hazmat Review**

This review will prepare you to take  
the 50 question Hazmat Test.



# Know Which Chart You are Looking At.

Switching or Train Placement



Know if the Test Question refers  
to the following :

- Loaded Car
- Empty Car
- Residue Car

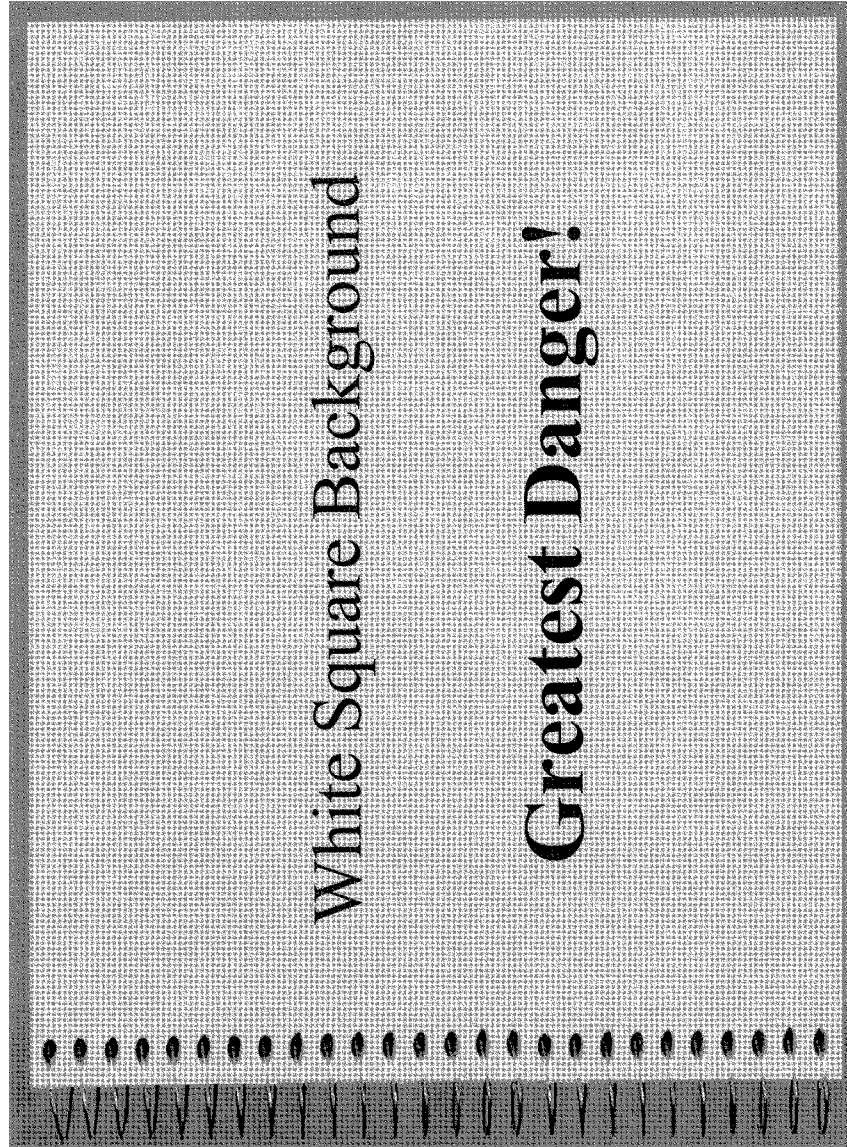
If You Don't Know if the Car is  
a Load or an Empty Consider it  
to be....

**LOADED**

## Charts

- Know that columns indicate -- any car, loaded tank, empty, or residue car.







## Things to Look For...

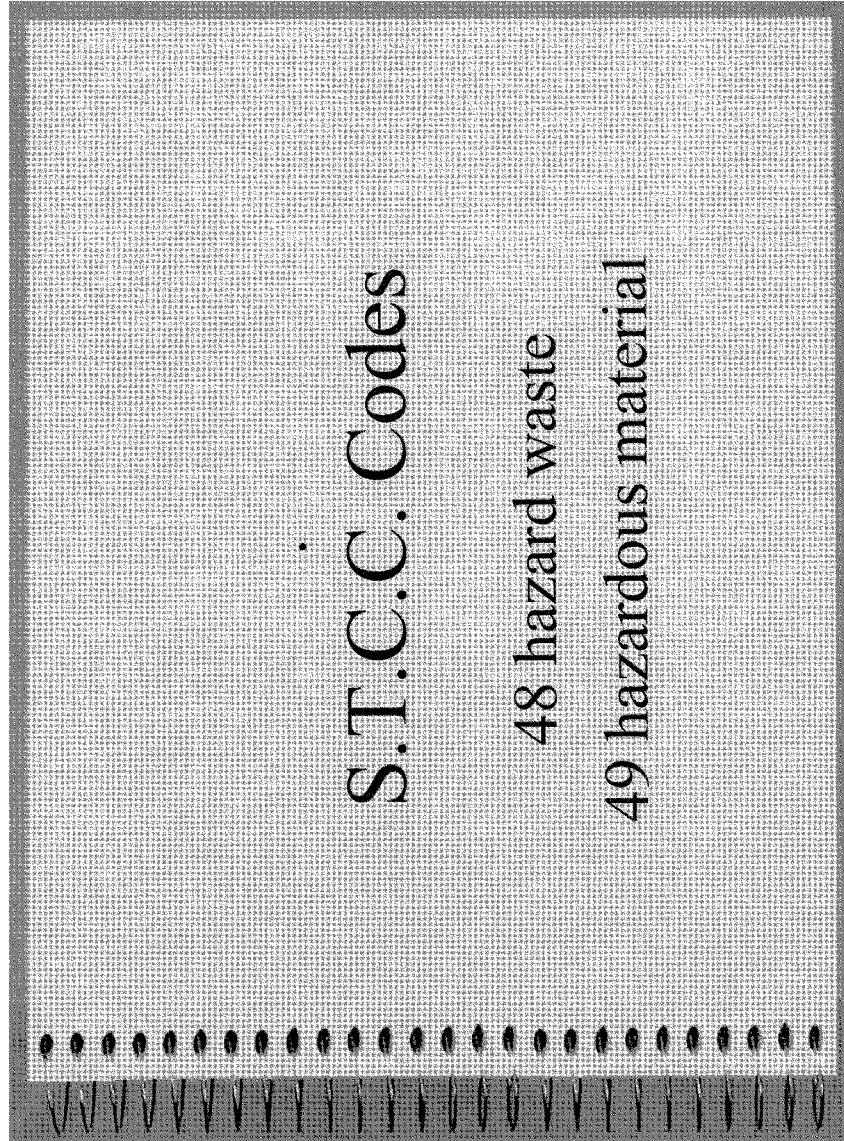
- Look for class number in lower quadrant
- Your paperwork can also be referred to as a Manifest
- Double Shelf Couplers -- All DOT tank cars have to have them
- Secondary Placards

## Position/Placement in Train Charts

Group 2 in placement charts,  
product transported in tanks  
only.

## Switching Chart

Applies if A-6 or A-16 are  
not applicable.



If you become a key train on line  
of road, who do you inform?

**Dispatcher**



If there is an incident on line of  
road, who do you call?

**Chief Dispatcher**

## D.O.T. 113 Tank Cars

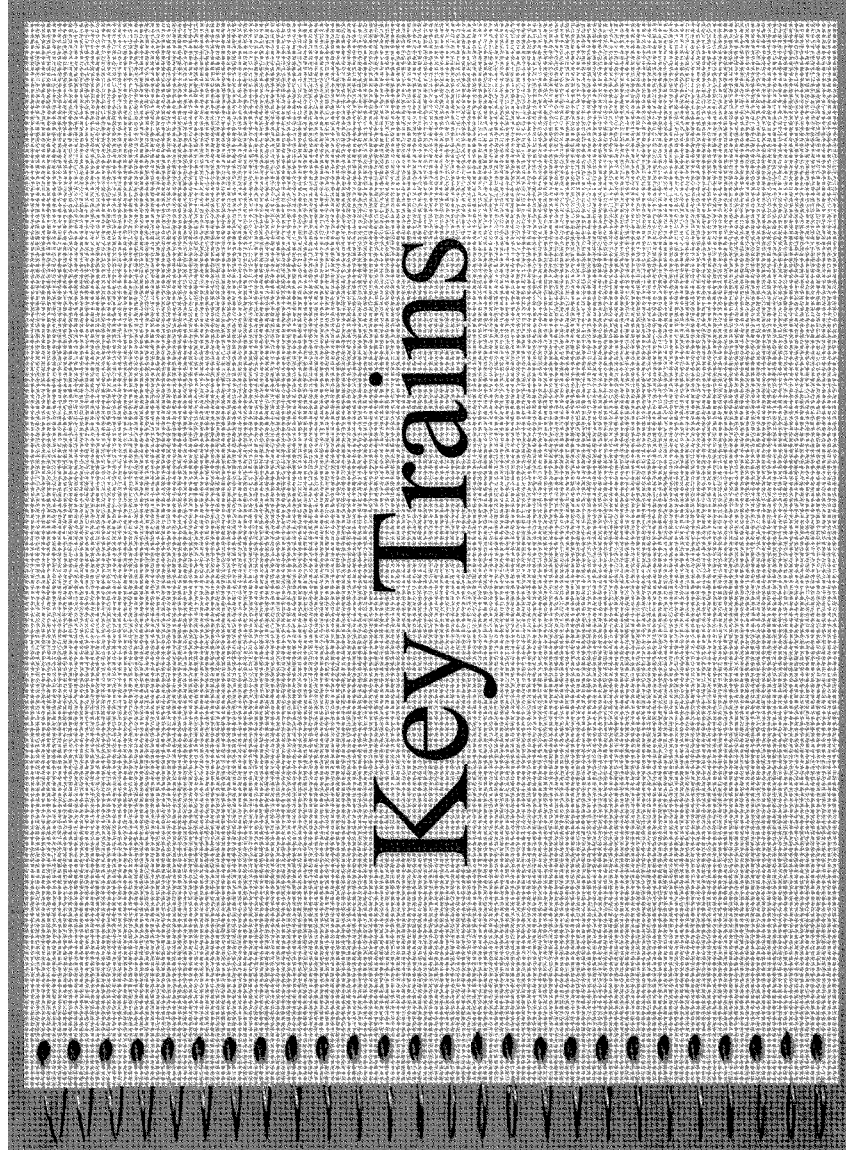
Have restrictions, cannot be  
cut off in motion

## Loaded Flammable Gas Tank Cars.....

May now be cut-off in motion  
in single car cuts, not  
exceeding 4 miles per hour



# Key Trains



Who and What determines  
if your train is a Key  
Train?  
Conductor  
Manifest

## Key Trains

- What constitutes your train to be a Key Train?
- 5 or more tank car or intermodal portable tank cars of a PIH
- 20 or more carloads or intermodal tank loads of Hazardous Materials
- 1 or more car loads of Spent Nuclear Fuel (SNF) or High Level Radioactive Waste

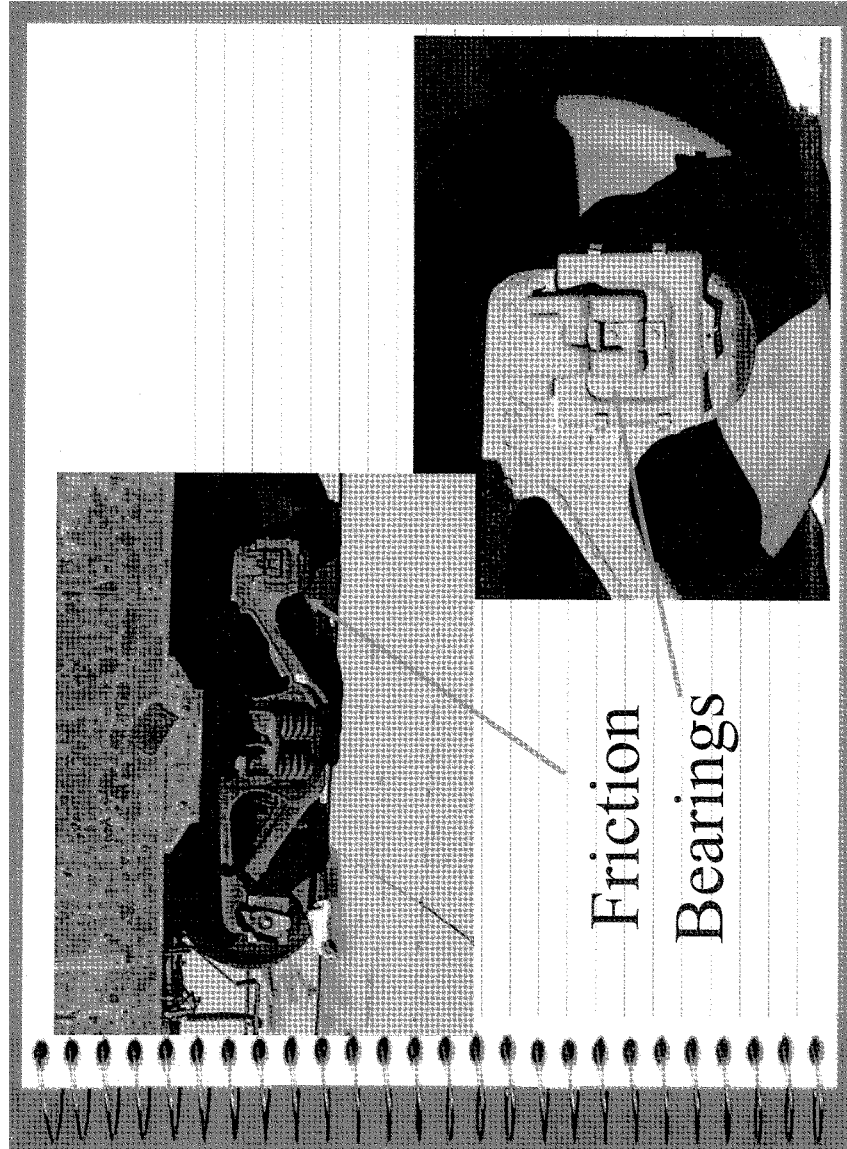
What is the Maximum  
Speed of a Key Train?

50 MPH

## Friction Bearings

Cars with these types of bearings  
are not allowed in Key Trains

All cars need to have roller  
bearings.





**EASTERN CODE**

# **Hazardous Materials Rules<sup>©</sup>**

SAFETY  
IS  
JUST  
GOOD  
BUSINESS



## EASTERN CODE — HAZARDOUS MATERIALS RULES®

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## **RAILROAD SPECIAL HAZMAT INSTRUCTIONS**

### **NORFOLK SOUTHERN CORPORATION**

#### **1. GENERAL REQUIREMENT**

These rules govern all employees of Norfolk Southern Corporation (NS) and its railroad subsidiaries. On the effective date all employees must transport and handle hazardous materials in compliance with the Eastern Code — Hazardous Materials Rules<sup>®</sup>.

#### **2. APPLICABILITY TO FOREIGN LINES**

Foreign line carriers with trackage rights on NS are governed by the Eastern Code — Hazardous Materials Rules<sup>®</sup>. If the foreign line railroad has adopted and issued a comparable document containing the Eastern Code — Hazardous Materials Rules<sup>®</sup>, foreign line employees are not required to maintain and have accessible while on duty a current copy of the NS version of the document.

NS employees when operating on a foreign railroad are not required to have a copy of the foreign line hazardous materials manual if the foreign line carrier is governed by the Eastern Code — Hazardous Materials Rules<sup>®</sup>, e.g., CSX, CR, or designated short-line carriers.

#### **3. EFFECTIVE DATE**

These instructions take effect 12:01 AM, Eastern Standard Time Sunday, November 11, 2001. They supersede all previous rules and instructions inconsistent herewith.

Further instructions may be issued by proper authority.

S. C. Tobias  
Vice-Chairman and Chief Operating Officer  
Norfolk Southern Corporation

### **NORFOLK SOUTHERN VISION**

*Be the safest, most customer-focused and  
successful transportation company in the world.*

## INTRODUCTION

### 1. PURPOSE

The safe transportation of hazardous materials continues to be a primary focus of the rail industry. Those railroads involved in the development of the Eastern Code — Hazardous Materials Rules® have worked together to create a set of uniform instructions for employees that transport hazardous materials by rail. The opportunity for employees to interact on a regular basis with other railroads continues to increase. The implementation of a standardized set of hazardous materials rules for use by subscribing railroads provides a significant enhancement to the safety of our employees and the communities through which we operate by a consistent application of the rules and regulations that govern the transportation of hazardous materials.

### 2. POLICY

To handle hazardous material shipments or incidents safely and efficiently, without delay, and in accord with local, state and federal regulations, it is imperative that you familiarize yourself with the Eastern Code — Hazardous Materials Rules®. It describes how to perform your duties so that both you and the company will comply with the Department of Transportation (DOT) regulations.



Employees who inspect or transport hazardous materials by rail must have a copy of, and comply with, the Eastern Code — Hazardous Materials Rules®.

Employees who transport hazardous materials must also have a copy of the current Emergency Response Guidebook (ERG) readily accessible while on duty.

The company will provide each employee who directly affects hazardous material transportation safety with appropriate training. For questions about the Eastern Code — Hazardous Materials Rules®, contact your immediate supervisor.

Always keep in mind that the company requires you to comply fully with the law. Compliance with the letter and spirit of our obligations is good corporate citizenship and is basic to achieving quality in all areas of our operations. Each of us has a duty to see that the railroad's actions are consistent with the highest legal and ethical standards.

## SECTION I GENERAL

### 1. GENERAL DOT REQUIREMENT

No person may offer, accept, or transport a hazardous material, substance or waste unless that material is properly classed, described, packaged, marked, labeled, and in condition for shipment as required or authorized by the Department of Transportation (DOT).

### 2. EXPEDITING HAZARDOUS MATERIAL SHIPMENTS

- a. You must forward all loaded hazardous material shipments:
  - (1) within 48 hours (excluding Saturdays, Sundays, and holidays) after accepting them at the shipper's facility or receiving them in any yard, transfer station, or interchange point; or
  - (2) on the first available train when only bi-weekly or weekly service is performed.
- b. Forward all "Time Sensitive" hazardous material shipments, both loads and those containing a residue, on the first available train. Materials of concern are:
  - (1) Ethylene refrigerated liquid — UN 1038;
  - (2) Hydrogen chloride, refrigerated liquid — UN 2186;
  - (3) Vinyl fluoride, inhibited — UN 1860; and
  - (4) Styrene monomer, inhibited — UN 2055.

### 3. EXCEPTIONS FOR U.S. GOVERNMENT MATERIAL

Department of Energy (DOE) and Department of Defense (DOD) shipments made for the purpose of national security and accompanied by escorts are not subject to the DOT regulations or these instructions. Escorts must travel in a rail car separate from the car carrying the hazardous materials.

### 4. CANADIAN SHIPMENTS

Canadian shipments of hazardous materials, moving with proper Canadian documents and placards, may be transported in the United States (U.S.):

- a. from the U.S. port of entry to their U.S. destination;
- b. when moving through the U.S. to a Canadian or foreign destination; and
- c. from the U.S. point of origin to the Canadian port of entry, when:
  - (1) the cars are returning residue shipments;

NOTE: residue placards may be displayed on the return movement.

or

- (2) regulated in Canada but not in the U.S.

**FIGURE I-1**  
**HAZARD CLASSES AND DIVISIONS**

- 1 — Explosives and Blasting Agents**
  - 1.1 Explosive (w/ mass explosion hazard)
  - 1.2 Explosive (w/ projection hazard)
  - 1.3 Explosive (w/ predominantly a fire hazard)
  - 1.4 Explosive (w/ no significant blast hazard)
  - 1.5 Very insensitive explosive; blasting agents
  - 1.6 Extremely insensitive detonating substances
- 2 — Gases**
  - 2.1 Flammable gas
  - 2.2 Non-flammable compressed gas
  - 2.3 Poisonous or Toxic gas
  - 2.4 Corrosive gas (Canadian classification)
- 3 — Flammable Liquids**
- 4 — Flammable Solids and Reactive Solids/Liquids**
  - 4.1 Flammable solid
  - 4.2 Spontaneously combustible material
  - 4.3 Dangerous-when-wet material
- 5 — Oxidizers and Organic Peroxides**
  - 5.1 Oxidizer
  - 5.2 Organic peroxide
- 6 — Poisonous Liquids, Solids and Infectious Substances**
  - 6.1 Poisonous or Toxic material
  - 6.2 Infectious substance
- 7 — Radioactive Materials**
- 8 — Corrosive Materials**
- 9 — Miscellaneous Hazardous Materials**

**WORDED CLASSES**


**Combustible Liquid**  
**ORM-D** (other regulated material)

**NOTE:** Shipping descriptions using IMDG (International Maritime Dangerous Goods) or Canadian TDG (Transport Dangerous Goods) regulations may contain additional divisions.

## SECTION II

### REQUIRED DOCUMENTATION


#### 1. GENERAL REQUIREMENT

 **Key Rule** Transport hazardous materials by rail only when a member of the crew has:

- a. position-in-train documents;
- b. appropriate emergency response information; and
- c. acceptable shipping papers.

**NOTE:** Keep all current hazardous material train documents neat and orderly. Ensure they are available in case of an emergency or for inspection. Properly discard superseded documents to eliminate the possibility of having either confusing or inconsistent information.

#### 2. POSITION-IN-TRAIN DOCUMENT

 **Key Rule** Before moving hazardous material shipments in a train, ensure you have a position-in-train document that shows the current position of each hazardous material shipment in the train.

Update the position-in-train documents before proceeding, whenever the location of hazardous materials cars changes because of pickups or setouts.

#### 3. APPROPRIATE EMERGENCY RESPONSE INFORMATION

Any of the following documents is acceptable emergency response information:

- a. Emergency response information printed as part of the train list/consist;
- b. Emergency Response Guidebook (ERG); or
- c. Similar information provided by the customer. For example, a Material Safety Data Sheet (MSDS).

#### 4. ACCEPTABLE SHIPPING PAPERS

Any one of the following documents is an acceptable shipping paper for hazardous material, as long as it includes the required shipping description entries as described below:

- a. Railroad-produced documents. For example, train consists, waybills, industry work orders, or other similar documents;
- b. Customer-produced documents. For example, bills of lading or switch lists;
- c. A connecting carrier's documents;
- d. A radio waybill or hand-printed document; or
- e. A hazardous waste manifest.

#### 5. SHIPPING PAPER ENTRIES

Review the shipping description entries for each hazardous material on the shipping papers:

- a. Figure II-1 displays two examples of shipping paper descriptions.

**FIGURE II-1**  
**SHIPPING DESCRIPTION ENTRIES**

*(vertical format)*

GATX 12345 <sup>(1)</sup>  
1/TC <sup>(2)</sup>  
SULFURIC ACID <sup>(3)</sup>  
8 <sup>(4)</sup>  
UN1830 <sup>(5)</sup>  
PG II <sup>(6)</sup>  
RQ (SULFURIC ACID) <sup>(7a)</sup>  
EMERGENCY CONTACT: 800-424-9300 <sup>(8)</sup>  
HAZMAT STCC = 4930040 <sup>(7b)</sup>

*(horizontal format)*

UTLX 12345 <sup>(1)</sup>  
1/TC <sup>(2)</sup> // CHLORINE <sup>(3)</sup> // 2.3 <sup>(4)</sup> // UN1017 <sup>(5)</sup> // RQ (CHLORINE) <sup>(7a)</sup> //  
POISON-INHALATION HAZARD <sup>(7a)</sup> // ZONE B <sup>(7b)</sup> // MARINE POLLUTANT  
(CHLORINE) <sup>(7a)</sup> // EMERGENCY CONTACT: 800-424-9300 <sup>(8)</sup> //  
HAZMAT STCC = 4920523 <sup>(7b)</sup>

**NOTE:** Numbers in parentheses ( ) indicate the entry described below.

b. Description of shipping paper entries:

**NOTE:** Items (1) through (6) and (8) are required entries for the basic hazardous materials description. Item (7) refers to additional entries. Items (2) through (6) must be in sequence; however, other information may be entered in parentheses between these items.

- (1) Reporting Marks (Initial and Number) when displayed on the package
- (2) Total Quantity Notation
  - (a) For bulk packaging (e.g., tank car shipments) or cylinders of Class 2 materials, the total quantity must appear. For example, 1 T/C, 1 C/L, or 10 cyl.
  - (b) For non-bulk packaging (e.g., intermodal shipments), the total quantity is given by weight or volume (including the unit of measure); for example, 100 lbs., 55 gal., or 5 kg.
- (3) Proper Shipping Name
 

The proper shipping name of the hazardous material may be one or more words, such as "Chlorine" or "Sulfuric Acid." The proper shipping name may include a number indicating the concentration of the material.

  - (a) When a N.O.S. (Not Otherwise Specified) shipping name appears, the chemical name of the product may appear in parentheses immediately after the N.O.S. shipping name, such as, "Corrosive Liquid, N.O.S. (Caprylyl Chloride)."
  - (b) Residue shipments will begin with "Residue: Last Contained" followed by the proper shipping name.



- (c) For waste shipments, the word "Waste" shall precede the proper shipping name of the material, if not part of the proper shipping name.
- (4) Hazard Class — numeric or worded  
Refer to the definition in the Glossary and the list of hazard classes in Figure I-1.
  - (a) Certain hazardous materials have a subsidiary hazard class, which may appear in parentheses after the primary hazard class. For example, Bromine is listed as 8 (6.1).
  - (b) Hazard Class is not required for Canadian tank car shipments of molten sulfur when both "MOLTEN SULFUR" and the identification number "2448" are stenciled on both sides of the car.
- (5) Identification Number  
A 4-digit identification number and the prefix UN or NA must appear for all hazardous materials, except those international shipments described as "Dangerous goods in limited quantities ...."
- (6) Packing Group  
The packing group, in Roman numerals, (either "PG I," "PG II," or "PG III" or "I," "II," or "III") must be on shipping papers, except for Hazard Classes 2, 6.2 and 7.
- (7) Additional Entries  
Some hazardous material shipping descriptions may also require one or more of the following entries:
  - (a) HOT notation added before a shipping name for elevated temperature materials;
  - (b) "RQ" for Reportable Quantity notation of a hazardous substance;
  - (c) MARINE POLLUTANT notation;
  - (d) POISON or TOXIC notation;
  - (e) POISON/TOXIC-INHALATION HAZARD (PIH or TIH) or INHALATION HAZARD notation;
  - (f) Hazard Zone notation (ZONE A, ZONE B, ZONE C, or ZONE D);
  - (g) LIMITED QUANTITY or "LTD QTY" notation;
  - (h) FRA Movement Authority, DOT Exemption, Special Approval Number, or Competent Authority Number;
  - (i) DOT-113 notation (DOT-113, Do Not Hump or Cut Off in Motion); or
  - (j) Hazardous Materials STCC Number (48xxxxx) or (49xxxxx).
  - (k) Certain shipments described using Canadian regulations may contain both an emergency response plan number and its activation telephone number (e.g., ERP-2-1008 (800-555-5555) // SPECIAL COMMODITY).
- (8) Emergency Response Telephone Number  
Shipping papers for hazardous materials must show at least one 24-hour emergency response telephone number *except* when the hazardous material is shown as a "Limited Quantity" ("LTD QTY") or its shipping name is:

- (a) wheelchair, electric;
- (b) refrigerating machine;
- (c) engines, internal combustion;
- (d) fish — meal or scrap, stabilized;
- (e) carbon dioxide, solid or dry ice;
- (f) castor — bean, meal, flake, or pomace;
- (g) battery powered — equipment or vehicle;
- (9) **Radioactive Material**  
 The description for a shipment of a Class 7 (radioactive) material must include the following additional entries as appropriate:
  - (a) The words "RADIOACTIVE MATERIAL," unless these words are contained in the proper shipping name;
  - (b) The name of each radionuclide;
  - (c) A description of the physical and chemical form;
  - (d) The activity contained in each package;
  - (e) The category of label applied to each package;
  - (f) The transport index, e.g., RADIOACTIVE YELLOW-II;
  - (g) For a shipment of low specific activity material or surface-contaminated objects, the appropriate group notation of LSA-I, LSA-II, LSA-III, SCO-I, or SCO-II.

## 6. HAZARDOUS WASTE SHIPPING PAPERS AND MANIFESTS

- a. Before picking up a rail car containing hazardous waste from a hazardous waste generator, either:
  - (1) the shipper/generator will sign the original hazardous waste manifest if they have the authority to sign on behalf of the company; or
  - (2) a member of the train crew, or another designated railroad employee, must sign on behalf of the company in the "transporter acknowledgment" section of the manifest.
- b. You may pick up a rail car containing hazardous waste without a copy of the manifest only if the hazardous materials paperwork for the shipment contains the:
  - (1) proper shipping description;
  - (2) name, address and telephone number of both the hazardous waste generator and the hazardous waste disposal facility; and
  - (3) the waste manifest number.
- c. When delivering rail cars of hazardous waste to a disposal facility, either:
  - (1) the disposal facility has an agreement with the company to forward the signed manifest directly to the railroad's Operations or Customer Service Center; or
  - (2) a train crew member or other designated employee must obtain a handwritten signature by a person representing the disposal facility on the manifest, or on the shipping paper if the manifest is not available

## 7. VERIFYING SHIPPING PAPERS



Train crews must have in their possession proper shipping papers, with the appropriate entries, when:

- a. accepting hazardous material shipments at a customer's facility, interchange point, or other location;
- b. moving hazardous material shipments in a train;
- c. delivering hazardous material shipments to a customer's facility, interchange point, or intermediate station; and
- d. switching hazardous material shipments outside a yard.

**NOTE:** Shipping papers are not required in the switch crew's possession when moving hazardous material shipments within a yard or customer's facility.

- e. **Exception:** Residue "Elevated Temperature Material" tank cars do not require hazardous materials documentation, although they may remain placarded.

## 8. HAZARDOUS MATERIAL RADIO WAYBILL

When shipping papers are not available, or incomplete, take the following action:

- a. Do not move the car until a shipping paper is provided.
- b. When standard shipping documents cannot be provided by printer or fax, contact your supervisor or dispatcher and request:
  - (1) a hazardous material radio waybill. The supervisor or dispatcher will provide the requested information via radio or telephone to you. Complete the radio waybill as instructed following proper radio procedures. Ensure the radio waybill remains with the shipment until either reaching the final destination or receiving another shipping paper; or
  - (2) if a radio waybill form is not available, legibly print the required hazardous materials information on a sheet of paper, including the car's initials and number (see Section II, Item 5).
- c. For each radio waybill issued, add the car initial and number and its position on the position-in-train document. Change all other position-in-train entries that are affected by the addition of this rail car (see Section II, Item 2).

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**FIGURE II-2****HAZARDOUS MATERIAL RADIO WAYBILL**

NOTE: Print legibly

**HAZARDOUS MATERIAL**

1. Train Number \_\_\_\_\_
2. Number of Cars from Head End \_\_\_\_\_  
(Update the position-in-train documents)
3. Car Initial & No. \_\_\_\_\_
4. 1/ Car Load or Residue Last Contained (Circle One)

**\*\*\* DESCRIPTION OF ARTICLES \*\*\***

5. Number of Packages/Car \_\_\_\_\_
6. Proper Shipping Name \_\_\_\_\_  
\_\_\_\_\_
7. Technical Name ( \_\_\_\_\_ )
8. Primary Hazard Class \_\_\_\_\_  
Secondary Hazard Class \_\_\_\_\_
9. UN/NA Id. No. \_\_\_\_\_
10. Packing Group (PG):        I            II            III        (Circle One)
11. Reportable Quantity (RQ): ( \_\_\_\_\_ )

**\*\*\* ADDITIONAL INFORMATION \*\*\***

12. Poison/Toxic-Inhalation Hazard:  
Zone A        Zone B        Zone C        Zone D        (Circle One)
13. Marine Pollutant ( \_\_\_\_\_ )
14. DOT Exemption Number(s): \_\_\_\_\_  
\_\_\_\_\_
15. Additional Information \_\_\_\_\_  
\_\_\_\_\_
16. ERP Plan No.: \_\_\_\_\_  
(Canadian Shipments Only)
17. ERP Telephone No.: ( \_\_\_\_\_ ) \_\_\_\_\_ - \_\_\_\_\_  
(Canadian Shipments Only)
18. Emergency Contact ( \_\_\_\_\_ ) \_\_\_\_\_ - \_\_\_\_\_  
( \_\_\_\_\_ ) \_\_\_\_\_ - \_\_\_\_\_

Completed:

 Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_      Time: \_\_\_\_\_ : \_\_\_\_\_ AM  
                  MO                   DAY                   YR                   PM

## SECTION III

### INSPECTION

#### 1. GENERAL REQUIREMENT

All hazardous material shipments, whether loaded or containing a residue, must be inspected from ground level for required markings (including stenciling), labels, placards, securement of closures and leakage. Cars may continue in transportation only when the inspection indicates that the cars are in safe condition for transportation and conform to DOT specifications.

#### 2. REQUIRED INSPECTIONS

Rail cars, trailers, and containers transporting hazardous material shipments (including flat cars transporting placarded or marked trailers or containers) must be inspected:

- a. before accepting them from the shipper;
- b. when receiving them in interchange;

**NOTE:** Run-through trains received in interchange may continue to the next inspection point before being inspected;

- c. when placing them in a train; or
- d. at other points where an inspection is required.

**NOTE:** Ensure rail cars coupled to either end of loaded tank car shipments do not contain shiftable loads.

#### 3. INSPECTION PROCEDURES

The following is in addition to standard inspections of mechanical condition. All routine hazardous material inspections should be made from the ground.

- a. All Car Types
  - (1) As you approach, without climbing on the rail car, make sure that hazardous material shipments are not leaking by:
    - (a) looking for leaking contents — drips, wetness or material on the ground;
    - (b) looking for a vapor cloud; and
    - (c) listening for hissing sounds of the contents escaping.
    - (d) If you find a hazardous material shipment leaking, follow the instructions in *Section VIII*.
  - (2) Placards and markings — *see the requirements in Section IV*.
  - (3) Confirm all customer loading and unloading lines are disconnected, derails, chocks, and blue flags are removed, and all platforms are raised or in the clear.

b. Tank Cars

Ensure cars placarded or marked with a DOT identification number have:

- (1) protective housing covers closed;
- (2) manhole cover swing bolts up and in place;
- (3) all valves and fittings closed and secure;
- (4) plugs or caps on other fittings are securely in place, except that heater coil pipes may be left open on residue tank cars, to allow them to drain; and
- (5) "double shelf couplers" and roller bearings.

c. Gondola Cars

Look for securely fastened gondola covers, and make sure the cover or tie-downs do not foul any safety appliances.

d. Hopper Cars

Check that discharge gates are closed and secured.

**4. HANDLING DEFECTS**

When a hazardous material shipment is not mechanically ready for service or car fittings are not secure or appear to be damaged:

- a. Do not accept or pull the hazardous material shipment or allow it to continue in transportation.
- b. Contact the customer or your immediate supervisor and explain the problem.

## SECTION IV

### PLACARDS AND MARKINGS

#### 1. GENERAL REQUIREMENT

When required, hazardous material shipments, both loaded and those containing a residue, must be properly placarded and marked (including stencils).

#### 2. PLACARDING REQUIREMENTS

- a. Placards are required for any quantity of the hazardous materials listed in Figure IV-1.

**FIGURE IV-1**  
**DOT PLACARDING TABLE 1**

##### **Hazard Class and Division**

- 1.1 Explosive with mass explosion hazard
- 1.2 Explosive with projection hazard
- 1.3 Explosive with predominantly a fire hazard
- 2.3 Poisonous/Toxic gas (by inhalation)
- 4.3 Dangerous-when-wet material
- 5.2 Organic peroxide, Type B, liquid or solid, temperature controlled
- 6.1 Poisonous/Toxic material, inhalation hazard, Zone A and Zone B
- 7 Radioactive Yellow III label, or exclusive-use shipments of low specific activity (LSA) materials and surface-contaminated objects

- b. Placards are required for quantities of 1,001 lbs. (454 kg) or more of the hazardous materials listed in Figure IV-2.

**FIGURE IV-2**  
**DOT PLACARDING TABLE 2**

**Hazard Class and Division**

- 1.4 Explosive with no significant blast hazard  
(Placards are not required for Class 1.4S materials.)
  - 1.5 Very insensitive explosive; blasting agents
  - 1.6 Extremely insensitive detonating substances
  - 2.1 Flammable gas
  - 2.2 Non-flammable, nonpoisonous compressed gas
  - 2.4 Corrosive gas — Canadian
  - 3 Flammable liquid
  - 4.1 Flammable solid
  - 4.2 Spontaneously combustible material
  - 5.1 Oxidizer
  - 5.2 Organic peroxide, *other than* Organic peroxide, Type B, liquid or solid, temperature controlled
  - 6.1 Poisonous/Toxic material, PG I or II, other than Zone A or Zone B inhalation hazard
  - 6.1 PG III Harmful: stow away from foodstuffs
- NOTE:** For domestic transportation of Class 6.1 PG III materials, a POISON/TOXIC placard may be used in place of a HARMFUL: STOW AWAY FROM FOODSTUFFS placard.
- 8 Corrosive material
  - 9 Miscellaneous hazardous material (may be either placarded or marked with the identification number)
- Combustible Liquid

- c. Residue placards are not authorized in the United States, unless they are displayed on tank cars and covered hoppers moving to or from Canada.
- d. Placards are not required for:
  - (1) Intermodal hazardous material shipments with less than 1,001 lbs. (454 kg) total weight, provided the hazard classes are included in Figure IV-2;
  - (2) Class 9 materials that display the UN/NA identification number on an orange panel or a white square-on-point configuration.
  - (3) Limited Quantity (LTD QTY) shipments when identified as such on shipping papers;
  - (4) Combustible liquids in non-bulk packaging (e.g., intermodal), unless the material is a hazardous substance or hazardous waste;
  - (5) Cars which have been cleaned and purged; and
  - (6) Radioactive White and Yellow II labels.



- e. Certain hazard classes are required to display the primary placard on a white square background, as shown in the example in Figure IV-3. This is required for:
  - (1) Hazard Class 1.1 or 1.2 explosives;
  - (2) Hazard Class 2.3 or 6.1 poison inhalation hazard Zone A materials; or
  - (3) Hazard Class 2.1 flammable gases loaded in DOT-113 tank cars.
- f. The DANGEROUS placard may be used when a rail car, trailer, or container is loaded with non-bulk packages of two or more classes of hazardous materials from Figure IV-2.
- g. Some tank car shipments of hazardous materials require additional subsidiary placards that represent secondary hazards. These placards do not display the 4-digit identification number or hazard class number.

**FIGURE IV-3  
TYPES OF PLACARDS**



Primary Placard  
(with word name)



Primary Placard  
(with 4-digit ID #)



Subsidiary  
(second) Placard



Placard with  
White Square  
Background

### 3. INSPECTING PLACARDS

Make sure that all required placards are:

- a. consistent with the shipping paper information;
- b. on both sides and both ends of the shipment;
- c. in placard holders or securely attached to the rail car, trailer, or container;
- d. not damaged, faded or obscured by dirt or car part;
- e. oriented horizontally, so you can read them from left to right; and
- f. visible when loaded in the wells of intermodal stack cars.

#### 4. IDENTIFICATION NUMBER MARKINGS

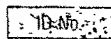
Make sure that the 4-digit identification numbers are displayed on both sides and both ends of bulk packagings and that they agree with the shipping paper entries (see Figure IV-4 for acceptable formats).

- a. Class 9 materials must be marked with the UN/NA identification number displayed on:
  - (1) Class 9 placards,
  - (2) an orange panel, or
  - (3) a white square-on-point configuration.
- b. Identification numbers will not appear on:
  - (1) EXPLOSIVES 1.1, 1.2, 1.3, 1.4, 1.5, or 1.6,
  - (2) RADIOACTIVE, or
  - (3) DANGEROUS placards.

**FIGURE IV-4**  
**ACCEPTABLE DISPLAY OF DOT IDENTIFICATION NUMBER**



Placard w/ ID #

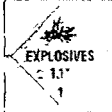
































Orange Panel w/ ID #



White Square-on-Point  
w/ ID #

**FIGURE IV-5  
PLACARDS FOR HAZARDOUS MATERIALS BY HAZARD CLASS**

Class 1 (Explosives)					
					
Division 1.1 (Explosive with Mass Explosion Hazard)	Division 1.2 (Explosive with Projection Hazard)	Division 1.3 (Explosive with Predominantly a Fire Hazard)	Division 1.4 (Explosive with No Significant Blast Hazard)	Division 1.5 (Very Insensitive Explosive)	Division 1.6 (Extremely Insensitive Explosive)
Class 2 (Gases)					
					
Division 2.1 (Flammable Gas)		Division 2.2 (Non-Flammable Gas)			
					
Division 2.3 Zone A (Poison Gas)					
					
Division 2.3 Other than Zone A (Poison Gas)					
					
Oxygen		Division 2.4 (Corrosive Gas) Canadian			
Class 3 (Flammable Liquids)			Combustible Liquids		
					
Class 3 (Flammable Liquid)		Combustible Liquid			
Class 4 (Flammable Solids & Reactive Solids/Liquids)					
					
Division 4.1 (Flammable Solid)		Division 4.2 (Spontaneously Combustible Material)		Division 4.3 (Dangerous When Wet Material)	

**FIGURE IV-5  
PLACARDS FOR HAZARDOUS MATERIALS BY HAZARD CLASS**

**FIGURE IV-5**

**PLACARDS FOR HAZARDOUS MATERIALS BY HAZARD CLASS**

**Class 5 (Oxidizers & Organic Peroxides)**

Division 5.1 (Oxidizer)

Division 5.2 (Organic Peroxides)

**Class 6 (Poisonous Materials)**

Division 6.1 PG I Zone A (Poison Inhalation Hazard or PIH)

Division 6.1 PG I, Other than Zone A, or PG II (Poison)

Division 6.1 PG III (Keep Away from Food)

NOTE: The word "TOXIC"  
can be used in place of the  
word "POISON."

**Class 7**

Class 7 (Radioactive Material)

**Class 8**

Class 8 (Corrosive Material)

**Class 9 (Miscellaneous Hazardous Materials)**

Class 9 (Miscellaneous Hazardous Material)

Class 9 (Miscellaneous Hazardous Material) Canadian

**Mixed Load**

U.S.

Canadian

## 5. INSPECTING MARKINGS

Make sure that markings, which includes tank car stenciling, are displayed on bulk packagings of materials described on the shipping papers as follows:

- a. **MARINE POLLUTANT** — for a material designated as a marine pollutant, make sure that the **MARINE POLLUTANT** mark is displayed on either both sides or both ends of bulk packagings in one of the formats in Figure IV-6.

**NOTE:** **MARINE POLLUTANT** marks are not required to be displayed when the bulk packaging displays a placard.

**FIGURE IV-6**

### ACCEPTABLE DISPLAY OF MARINE POLLUTANT MARK



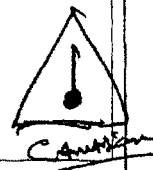
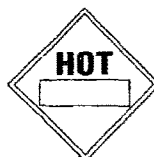
- b. **HOT** — when bulk packagings of elevated temperature materials are described with the words "HOT," "ELEVATED TEMPERATURE," or "MOLTEN," make sure the word "HOT" is marked on two opposing sides either on:

- (1) a plain white square-on-point configuration having the same outside dimensions as a placard (see Figure IV-7); or
- (2) displayed on the packaging itself.

**NOTE:** The word "HOT" is not required for bulk packagings of molten aluminum or molten sulfur marked "MOLTEN ALUMINUM" or "MOLTEN SULFUR" as appropriate.

**FIGURE IV-7**

### ACCEPTABLE DISPLAY OF HOT MARK



- c. **INHALATION HAZARD** — shipments described as a "Poison/Toxic-Inhalation Hazard," or "Inhalation Hazard" require the words "INHALATION HAZARD" marked (in at least 3.9-inch-high letters) on both sides of the rail car, trailer, or container near the placards.

**NOTE:** When the words "INHALATION HAZARD" appear on the placard, the "INHALATION HAZARD" mark is not required on the bulk packaging.

- d. **FUMIGATION** — bulk packagings whose contents have been fumigated must display the international fumigant marking near the entries to the car. The FUMIGANT mark must be in English; however, EPA allows another language in addition to English on the same FUMIGANT mark.

**FIGURE IV-8  
ACCEPTABLE DISPLAY OF FUMIGANT MARK**



- e. **PROPER SHIPPING NAME** — ensure the Proper Shipping Name of the material is legibly marked on two opposing sides of an intermodal tank. Tank cars of flammable gases (2.1) and inhalation hazards (2.3, Zone A and 6.1, PG I Zone A) also require a product stencil.
- f. **TANK CAR TEST DATES** — make sure the stencils describing the tank car specification and test dates are legible. Check the tank car test dates for safety valve, tank and interior/exterior heater coil tests are current (a car is within test until the last day of the month or year shown). These stencils will appear on the right-hand side of the car under the specification marking.
- NOTE:** Do not accept loaded cars with overdue test dates from the shipper.

**FIGURE IV-9  
STENCILING FORMAT — TANK CAR TEST DATES**

	STATION STENCIL	QUALIFIED	DUE
TANK QUALIFICATION	111A100W1	1998	2018
SERVICE EQUIPMENT			
VALVE	75 LBS	1995	2005
INT HTR			
COATING/LINING			
TYPE			
DATE APPLIED			
88.B.2 INSPECTION			

#### **6. SHIPMENTS PLACARDED EXPLOSIVES 1.1 OR 1.2**

In addition to the other inspection requirements in this section, for high explosives:

- look for indications of damage to the contents;
- make sure that completed "car certificates" (see Figure IV-10) are displayed on both sides of the rail car containing either class 1.1 or 1.2 shipments;
- do not accept or transport the car until all damage has been corrected and car certificates are in place.

**FIGURE IV-10**  
**TEXT OF THE CAR CERTIFICATE**

\_\_\_\_\_ Railroad

No. 1 \_\_\_\_\_ Station, \_\_\_\_\_, 20 \_\_\_\_\_

I hereby certify that I have this day personally examined  
Car Number \_\_\_\_\_ and that the car is in condition for service and  
complies with the FRA Freight Car Safety Standards (49 CFR Part 215) and with the  
Requirements for freight cars used to transport explosives prescribed by the DOT  
Hazardous Materials Regulations (49 CFR Part 174).

\_\_\_\_\_  
(Qualified Person Designated Under 49 CFR 215.11)

No. 2 \_\_\_\_\_ Station, \_\_\_\_\_, 20 \_\_\_\_\_

I have this day personally examined the above car and hereby certify that the  
explosives in or on this car, or in or on vehicles or in containers have been loaded and  
braced; that placards have been applied, according to the regulations prescribed by the  
Department of Transportation; and that the doors of cars so equipped fit or have been  
stripped so that sparks cannot enter.

\_\_\_\_\_  
(Shipper or his authorized agent)

No. 3 \_\_\_\_\_ Station, \_\_\_\_\_, 20 \_\_\_\_\_

I hereby certify that I have this day personally supervised the loading of the  
vehicles or containers on and their securement to the above car.

\_\_\_\_\_  
(Shipper or railway employee inspecting loading and securement)

**NOTE 1:** A shipper must decline to use a car not in proper condition.  
**NOTE 2:** All certificates, where applicable, must be signed.

**7. MISSING OR ILLEGIBLE PLACARDS OR MARKINGS**



- a. When placards, markings, or stencils are illegible, not properly applied, badly faded or missing when picking up hazardous material shipments at the customer's facility or siding:
- (1) Notify the customer or your immediate supervisor, as appropriate; and
  - (2) Do not accept the hazardous material shipment until corrections have been made.
- b. When placards or markings are found illegible, not properly applied, or missing en route, notify the dispatcher or your immediate supervisor, who will arrange to correct the problem at the next inspection point.

**NOTE:** When replacing missing identification numbers found en route, they may be entered with an indelible marking material on the appropriate placard, orange panel, or white square-on-point configuration.

## SECTION V SWITCHING

### 1. GENERAL REQUIREMENT



When switching placarded hazardous material cars at any location, you must comply with the instructions contained in the Switching Chart (Figure V-1).

**NOTE:** All placarded rail cars must couple at speeds of 4 MPH or less.

### 2. SAFETY

Position yourself toward the end of a tank car, at least fifteen (15) feet, and more if possible, from the manway and valves prior to coupling. Contents of tank cars may splash during or immediately following coupling due to improperly secured closures or the impact of coupling.

Do not place or leave any rail car placarded EXPLOSIVES 1.1 or 1.2:

- a. where there is any probable danger of fire (e.g., switch heaters); or
- b. under bridges or along passenger stations.

### 3. WHEN TO USE THE SWITCHING CHART

Refer to the Switching Chart:

- a. when switching placarded hazardous material shipments in a yard to place them in a train or on a classification, repair, or storage track; or
- b. when switching (pulling or placing) placarded hazardous material shipments at a customer's facility, interchange point, or intermediate station.




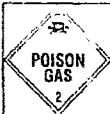





### 4. HOW TO USE THE SWITCHING CHART

Select the applicable column of the Switching Chart by:

- a. identifying the placards and markings applied to the car;
- b. determining the load or residue status of the car by the notation "RESIDUE: LAST CONTAINED" on the paperwork;
- c. identifying the car type involved by observation (e.g., tank car, hopper car, gondola, etc.); and then
- d. finding the applicable section, based on the placard or marking applied, the load or empty status, and the car type.

Read and follow the restrictions associated with the placard or marking as indicated by "X"s in the columns.



FIGURE V-1 SWITCHING CHART		
NORFOLK SOUTHERN HAZARDOUS MATERIALS SWITCHING CHART		
HOW TO USE THIS CHART	GROUP 1	GROUP 2
<p>Select the applicable column of the Switching Chart by:</p> <ol style="list-style-type: none"> <li>Identifying the placard or markings applied to the car;</li> <li>Determining the load or residue status of the car by the notation "RESIDUE: LAST CONTAINED" on the paperwork;</li> <li>Identifying the car type involved by observation (e.g., tank car, hopper car, gondola, etc.); and then</li> <li>Finding the applicable section, based on the placard marking applied, the load or empty status, and the car type.</li> </ol> <p>Read and follow the restrictions associated with the placard or markings as indicated by "X"s in the columns.</p>	 	 Hazard Zone A  Hazard Zone A  Hazard Zone A  Hazard Zone A  DOT - 113 Tank Car
EQUIVALENT PLACARDS		
 =  <p>Cars with placards displaying 4-digit identification numbers will be handled the same as cars with word description placards.</p> <p><b>NOTE:</b> The words "POISON" and "TOXIC" can be used interchangeably on placards displayed in Group 2 and Group 3. Flat car means any loaded TOFC or COFC.</p>		
RESTRICTIONS	Any Car	Any Car
<b>1</b> Must be separated from an engine by at least one non-placarded car or by one Group 4 placarded or marked car.	<b>X</b>	
<b>2</b> Must not be: • Cut off in motion; • Struck by any free rolling car; or • Coupled into with more force than needed to make the coupling.	<b>X</b>	<b>X</b>
<b>3</b> Must not be cut off in more than two cars. No more than two car cuts can couple into these cars. Exception: Loaded flammable gas tank cars which may be cut off in motion, must not be cut off in more than one car cut. No more than one car cut can couple into these cars.		
<b>4</b> When using hand brakes: • Do not cut cars off until all preceding cars are clear of the lead. • Do not cut off any cars to follow until the lead is clear.		
<b>5</b> When cars can be cut off in motion, the coupling speed must not exceed 4 MPH.		

**FIGURE V-1  
SWITCHING CHART**

GROUP 3			GROUP 4
Loaded Tank Car	Any Flat Car	Other Loaded Rail Car	Any Car
	<b>X</b>		
<b>X</b>			
<b>X</b>			
<b>X</b>		<b>X</b>	<b>X</b>

Revised: 11/11/01

## SECTION VI TRAIN PLACEMENT

### 1. GENERAL REQUIREMENT



Place placarded hazardous material shipments in a train to comply with the restrictions on the Position-in-Train Chart (Figure VI-1).

At initial terminals where mechanical forces are responsible for train inspection and at crew change points, conductors must physically observe the first six cars of their train to ensure the correct placement of placarded hazardous material cars.

### 2. WHEN TO USE THE POSITION-IN-TRAIN CHART

Use the Hazardous Materials Position-in-Train Chart whenever air brake rules apply. Ensure that train placement is correct before departing:

- a. the initial terminal; or
- b. an intermediate station where pickups and setouts were made en route.

### 3. HOW TO USE THE POSITION-IN-TRAIN CHART









Select the applicable column of the Position-in-Train Chart by:

- a. finding the placard or marking applied to the car;
- b. determining the load or residue status of the car by the notation "RESIDUE: LAST CONTAINED" on the paperwork;
- c. identifying the type of car involved by inspection; and then
- d. finding the appropriate column based on the placard applied, load or residue status, and car type.

Read and follow the restrictions associated with the placard or marking as indicated by "X"s in the columns.

**4. GENERAL INFORMATION**

- a. For train placement purposes, each platform of an intermodal rail car is counted as one car.
- b. A buffer car is a:
  - (1) non-placarded rail car;
  - (2) rail car with a placard or marking shown in Group 5; Figure IV-1
  - (3) residue tank car, as long as it complies with Restriction # 2 on the Position-in-Train Chart; or
  - (4) placarded rail car, other than a tank car, as long as it complies with Restriction # 7 on the Position-in-Train Chart.

FIGURE VI-1 POSITION-IN-TRAIN CHART				
NORFOLK SOUTHERN HAZARDOUS MATERIALS POSITION-IN-TRAIN CHART		GROUP 1		GROUP 2
HOW TO USE THIS CHART				 Hazard Zone A
Select the applicable column of the Position-in-Train Chart by: a. Finding the placard or markings applied to the car; b. Determining the load or residue status of the car by the notation "RESIDUE: LAST CONTAINED" on the paperwork; c. Identifying the type of car involved by inspection; and then d. Finding the appropriate column based on the placard applied, load or residue status and car type. Read and follow the restrictions associated with the placard or markings as indicated by "X"s in the columns.				 Hazard Zone A
EQUIVALENT PLACARDS				 Hazard Zone A
 =  Cars with placards displaying 4-digit identification numbers will be handled the same as cars with word description placards.				 Hazard Zone A
NOTE: The words "POISON" and "TOXIC" can be used interchangeably on placards displayed in Group 2 and Group 4				
RESTRICTIONS		Any Car	Loaded Tank Car	Residue Tank Car
1 When train length permits, must not be nearer than the 6th car from an engine or any occupied caboose, shoving platform, or passenger car. If length does not permit, must be near the middle of the train.		X	X	
2 ↑ MUST NOT BE NEXT TO ↓	2 Engine, any occupied caboose, shoving platform or passenger car.	X	X	X
	3 Open-top cars (including bulkhead flats) when any of the lading protrudes beyond the car ends or if shifted would protrude beyond the car ends.	X	X	
	4 Loaded flat cars except closed TOPC/COFC equipment, multi-levels, and other specially equipped cars with tie-down devices for handling vehicles.	X	X	
	5 Railroad wheels loaded on wheel car flats, in gondolas with no ends, or loaded with the axles above the top of the cars.	X	X	
	6 Any rail cars, transport vehicles, or freight containers with temperature control equipment or internal combustion engine in operation.	X	X	
	7 Any placarded car in another placarding Group, except it may be next to any residue placarded car or any car placarded or marked as in Group 5.	X	X	

## SECTION VIII TRANSPORTATION INCIDENTS

### 1. GENERAL REQUIREMENT



In case of a hazardous materials incident, safety is the first consideration. Your responsibility, when observing an incident, is to determine the status of the incident and to immediately report the incident to the train dispatcher or yardmaster.

**NOTE:** Do not allow a leaking hazardous material shipment to continue in transportation until the leak is resolved (e.g., repaired, reconditioned, or overpacked).

### 2. REPORTABLE INCIDENTS

Reportable incidents include:

- a. all unintentional or accidental releases (including very minor leaks) of hazardous materials in transportation.
- b. all derailments and accidents involving rail cars containing either a hazardous material, substance, or waste, including residue shipments, in which the:
  - (1) packaging is damaged; or
  - (2) car is derailed and not upright, regardless of damage, leaks, or releases.
- c. all releases of any petroleum product (including oil, diesel fuel, gasoline, etc.) or other materials that can cause environmental damage. For example, spills on shorelines next to water, or spills that cause a sheen on the water.
- d. when in doubt, report all release incidents, regardless of the amount of material involved.

### 3. WHEN AN EMERGENCY OCCURS:

SAFETY IS OF FIRST IMPORTANCE.

Carry out the following actions as closely as possible; however, on-scene judgment based on actual circumstances must be the final guide for protecting people, property, and the environment.

- a. Make an emergency call, as radio rules require.
- b. Look for a fire or vapor cloud.
- c. Rescue the injured if qualified, without endangering yourself or others. Warn and keep everyone at a safe distance until it can be determined what, if any, chemicals are involved.

### 4. WHEN A FIRE OR VAPOR CLOUD IS VISIBLE:

- a. Take the shipping papers (including the emergency response information) and move yourself and other crew members upwind to the farthest distance recommended in the Evacuation Section of the emergency response information accompanying the shipping papers, or the Emergency Response Guidebook's green pages that provide initial isolation distances.
- b. Stay out of ditches and low areas.

- c. Remove all possible ignition sources. **Do Not Smoke.**
- d. Provide the train dispatcher or yardmaster with as much of the following information as possible:
  - (1) Status of crew members;
  - (2) Cars involved, including each car's initials and numbers and its extent of involvement (for example, leaking, derailed, or on fire);
  - (3) Surroundings (e.g., proximity to populated areas, local bodies of water or nearby drainage ditches or storm sewers; description of terrain; location of access roads; weather conditions);
  - (4) Resources required to handle situation (e.g., fire, ambulance, and law enforcement agencies); and
  - (5) Location where a crew member with shipping papers will meet arriving emergency response personnel.
- e. Once you are in a safe location, identify yourself and cooperate with the local emergency response personnel as noted in Item 6 of this Section.

#### 5. WHEN NO FIRE OR VAPOR CLOUD IS VISIBLE:

- a. Review the shipping papers for hazardous material shipments.
- b. Take the shipping papers (including the emergency response information) and inspect the train to identify the rail cars, trailers, or containers involved, and look for indications of the release of hazardous materials.
- c. When you encounter released hazardous materials during this inspection:
  - (1) Avoid contact with the material and its vapors;
  - (2) Move yourself and other crew members upwind to the farthest distance recommended in the Evacuation Section of the emergency response information accompanying the shipping papers, or the Emergency Response Guidebook's green pages that provide initial isolation distance.
  - (3) Stay out of ditches and low areas;
  - (4) Remove all possible ignition sources. **Do Not Smoke;** and
  - (5) Warn all bystanders to stay away.
- d. After completing the inspection, notify the train dispatcher or yardmaster with as much of the following information as possible:
  - (1) Status of crew members;
  - (2) Cars involved, including each car's initials and numbers and its extent of involvement (for example, leaking, derailed, or on fire).
  - (3) Surroundings (for example, proximity to populated areas, local bodies of water or nearby drainage ditches or storm sewers; description of terrain; location of access roads; weather conditions);
  - (4) Resources required to handle situation (for example, fire, ambulance, and law enforcement agencies); and
  - (5) Location where a crew member with shipping papers will meet arriving emergency response personnel.
- e. Once you are in a safe location, identify yourself and cooperate with the local emergency response personnel as noted in Item 6 of this Section.

**6. COOPERATING WITH LOCAL EMERGENCY RESPONDERS**

- a. Share any requested information from the shipping papers with emergency response personnel.
- (1) Provide an extra copy of the train consist/list, if available;
  - (2) Provide the Emergency Response Guidebook along with a copy of the emergency response information provided with the shipment;
  - (3) Note time, along with the name and title of the person provided with this information.
- b. Help emergency response personnel identify cars and the commodities involved. Use shipping papers or observations from a safe location to accomplish this task.
- c. Provide a full report of the incident, and any assistance you gave to the emergency responders, to the first railroad manager on the scene.

**7. MOVING A LEAKING CAR**

Do not move a leaking rail car containing a hazardous material unless it is necessary to reduce or eliminate an immediate threat of harm to human health or the environment.

- a. An adequate number of buffer cars must be used between the locomotive and the leaking car to prevent chemical exposure.
- b. Short movements may be made if a receptacle is attached under the leak to prevent the spread of product.
- c. If safe to do so, switch cars containing leaking hazardous materials to a location distant from habitation, waterways, and highways.



## SECTION IX GLOSSARY

- a. **Buffer car** — a non-placarded, residue or low-hazard rail car used to separate hazardous material shipments from other shipments, locomotives and occupied cars for placement in a train.
- b. **Bulk packaging** — packaging with capacity greater than 119 gallons or 882 pounds. For example, bulk bags, intermodal (IM) portable tanks, portable tanks, portable bins, gondola cars, hopper cars, or tank cars.
- c. **Department of Transportation (DOT)** — a department of the United States Government that: formulates and executes transportation objectives, policies and programs; promotes research and development with an emphasis on safety; and, encourages cooperation between federal, state, and local governments, carriers, labor and other interested persons to achieve transportation objectives. The Department's primary branches are the: U.S. Coast Guard, Federal Aviation Administration, Federal Highway Administration, Federal Railroad Administration, and the Research and Special Programs Administration.
- d. **Emergency response information** — hazard and response information for each hazardous material that is contained in either the train documentation or the Emergency Response Guidebook (ERG) to assist response personnel at hazardous material incidents.
- e. **Hazard class** — the category of hazard assigned to a material. A class may be subdivided into divisions for clarity and expressed as a number or with words.
- f. **Hazardous material** — a substance or material which the Secretary of Transportation has determined to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce. The term "hazardous material" includes hazardous substances, hazardous wastes, elevated temperature materials (HOT or MOLTEN), and marine pollutants.
- g. **Hazardous material shipment** — a hazardous material in rail cars, trailers, or containers in rail transportation. All hazardous material shipments require shipping papers. When moved in rail cars, trailers, or containers, hazardous material shipments may or may not be placarded or marked with an identification number.
- h. **Hazardous waste manifest** — a document specifically for tracking hazardous wastes in transportation which contains the shipping description and identifies the waste generator, each transporter and the disposal facility.
- i. **Hazard zone** — one of four levels of inhalation hazard (Hazard Zones A through D) assigned to gases, and one of two levels of hazard (Hazard Zones A and B) assigned to liquids that are poisonous/toxic by inhalation. For example, when the hazard zone is "A," it is shown on the shipping paper as "Zone A." Zone A is the most hazardous, and Zone D is the least hazardous.
- j. **Interchange** — the process of transferring rail cars to or from another railroad.
- k. **Limited quantity (LTD QTY)** — a term used on shipping papers to indicate a hazardous material shipment which is allowed an exception to the labeling, packaging and placarding requirements because the hazard associated with a small package is low.

- l. **Marking** — a descriptive commodity name, identification number, instructions, cautions, weight, specification, or UN marks, or combinations required by DOT regulations to be displayed on the outer packaging of hazardous materials. For example, INHALATION HAZARD, HOT, MOLTEN, OR MARINE POLLUTANT.
- m. **Non-bulk packaging** — packaging with a capacity equal to or less than 119 gallons or 882 pounds. For example, bags, bottles, boxes, cylinders, or drums.
- n. **N.O.S.** — initials, found on shipping papers, which mean "Not Otherwise Specified."
- o. **ORM-D (Other Regulated Material — Group D)** — a material such as a consumer commodity that, due to its form, quantity and packaging, presents such a limited hazard that it is not subject to the regulations when transported by rail.
- p. **Packing group** — a grouping of hazardous materials according to the degree of danger:
  - (1) Packing Group I (shown as "PG I" or "I" on the shipping papers) indicates great danger.
  - (2) Packing Group II (shown as "PG II" or "II" on the shipping papers) indicates medium danger.
  - (3) Packing Group III (shown as "PG III" or "III" on the shipping papers) indicates minor danger.
- q. **Placard** — a sign measuring 10 3/4 by 10 3/4 inches square-on-point, communicating a hazard by symbol, color, and words or numbers. Some placards must be displayed on a square background, which is white with a black border.
- r. **Placarded car** — a rail car displaying placards in accordance with DOT regulations.
- s. **Poison/Toxic-Inhalation Hazard (PIH or TIH) or Inhalation Hazard** — synonymous terms used to identify certain gases and liquids that may cause health problems if breathed in very low concentrations for short periods of time.
- t. **Position-in-Train document** — a document listing the current position of all rail cars containing a hazardous material shipment within the train. This document could be the train consist or a separate document specifically for this purpose.
- u. **Residue** — the hazardous material remaining in a packaging, including a tank car, after its contents have been unloaded to the maximum extent practicable.
- v. **Shipper's Certification** — a signed (or electronically printed) declaration on the shipping paper provided by the shipper to the first transporter for a loaded hazardous material shipment. It may read either:
 

"This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation," or

"I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations."

**NOTE:** A shipper's certification is required on any shipping paper that the customer provides to the crew for loaded hazardous material cars.

- w. **Shipping paper** — any document providing the appropriate entries for a hazardous material shipment.
- x. **Switching** — the operation of moving rail cars within a yard, or customer's facility. It does not include moving rail cars to or from a shipper's facility or industry track.
- y. **Technical name** — a recognized chemical name used in scientific and technical handbooks, journals, and texts to further identify a hazardous material description.
- z. **Train** — one or more engines coupled, with one or more rail cars, displaying a marker, and authorized to operate on a main track.
- aa. **Yard** — a system of tracks, other than main tracks and sidings, used for making and breaking up trains and for other purposes, such as repair or storage of cars.

Date:            /            /            Time:            :            AM  
MO DAY YR PM

Date:            /            /            Time:            :            AM  
MO DAY YR PM

**EASTERN CODE —  
HAZARDOUS MATERIALS RULES®**

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